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Vol. III

TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, 1936

No. 358

ALBERT OTTINGER, AS ATTORNEY GENERAL OF THE STATE OF NEW YORK, APPELLANT,

vs.

THE BROOKLYN UNION GAS COMPANY

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE EASTERN DISTRICT OF NEW YORK

FILED APRIL 20, 1936

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VOLUME III

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[fol. 1842] The Brooklyn Union Gas Company

Brooklyn, N. Y., June 2, 1924.

C. B. Mount

Cross:

This is the first examination of books belonging to a gas company that I have ever made. I am familiar with the type of apparatus that is required in the manufacture of gas. Only from a general description of the same, but not familiar with the type of apparatus that is used in the manufacture of coal-gas as distinct from water-gas.

I made the examination of the records and books of the company as I would have made the examination while I was employed with Ernst and Ernst or with Haskins & Sells. It is the policy of Haskins & Sells who are one of the largest concerns in the country, to audit all additions to the Capital Account. Every accountant that they send out does not understand all the details of the machinery in these companies. Of course, you never could get enough accountants qualified along that line, but it was the policy of those companies along that line, but it was the policy of those companies to make a detailed audit of all additions to the property. In that audit it was necessary to determine whether an addition was correct or not from the bill covering the material purchased or the equipment purchased. It was along that line that I pursued my investigation, trying to determine what appeared to be an addition to equipment, and what appeared to be a charge to Expense. I was trying to determine whether it was equipment or not [fol. 1843] whether it was for operating purposes or an increase in capital. Equipment would be equipment. I tried to get information which would show me whether it was to be installed to represent additions to plant or new plant. I would say that I practically did. I had before me no detailed inventory of the property which was taken over by the Brooklyn Union Gas Company in the year 1895. I did not know what property was in existence at that time, nor did I possess sufficient knowledge to know from my examination of the books whether all of the property was in the books or not, or whether there was duplication in the

books. In order to tell definitely whether the books show the cost of the identical property taken over in 1895 by the Brooklyn Union Gas Company, you would have to have the information which would show the cost of each item on that inventory at the time it was erected or purchased. You would have to have the inventory. The dates of installation of the property and the data to support such information, then with the inventory and the dates of installation of such pieces of property, you could go to the books and pick out those various items of property. If you did not have such information you could not tell if they did reflect it. The fact that the underlying data upon which these entries are based is lost, does not to my mind cast discredit upon the books. You could not prove that the postings were correct without supporting data, nor could you prove them incorrect. You could prove from certain entries which ap- [fol. 1844] pear in there without this underlying data, that certain additions existed, but for the fact that you bring out, the lack of information, the items which are covered by this information which is lacking, you would not be able to prove.

Suppose the Brooklyn Union Gas Company, now should lose all of its underlying data, all of the bills and vouchers and things of that kind you could not tell whether or not the additions were correct. At November 4th, 1895, the books were in balance. That did not demonstrate to my mind as an accountant, anything in particular. The books are often in balance and yet not correct. The Williamsburgh Company books were not in balance all through the period. It was the policy in the Williamsburgh Company to open a book for a period of say five or six years and then close that book out and open a new one. They have several different ledgers. One of those ledgers appears never to have been closed; the third one appears never to have been closed, and a new book, the fourth book, was opened in balance with figures different from those in the third ledger.

There is nothing to show what they did. The balance in the old book is one amount and the balance in the New Book is another amount for the same account, with no description of what did happen in the meantime. One book starts where the other one ends. There is nothing to show whether it is wrong or not. It is a lack of information.

[fol. 1845] I examined the final ledgers of the vendor companies and took off trial balances as of November 4th, 1895.

I was asked: "Q. Did you find those books in balance," and answered "I found those books in balance." That was limited to the final ledger. Having found the final ledgers in balance, as a matter of practice, it is customary to take off a trial balance of the books and use the trial balance as an index. The account names and amounts appear there and the details are checked up by making reference to the book of original entry or whatever we want to refer to from that index. That is principally what a trial balance is taken off for. Books are not as accurate when they are out of balance as they are when they are in balance. When they are in balance they are more accurate. The fact that the books are in balance, establishes that the postings have been made on the proper sides of various accounts. It does not prove that the postings have been made to the correct account and it does not prove whether or not the balance is forced. Taking, for instance, the fact that Ledger No. 3 closed without a balance, and Ledger No. 4 started in, in balance; that might be a condition of affairs that I as an accountant would call forcing a balance. There is no way of telling what they had in mind. It is forcing a balance, but how they arrived at this balance—how somebody else arrived at it, I could not tell. It does not show the effect on the balance. Someone else took them over. That does not cast any discredit on the books, the fact that they were closed out.

[fol. 1846] When I speak of the final ledgers as being in balance, it is pretty hard to say that the transactions by which certain properties were conveyed to the Brooklyn Union Gas Company were utilized as the final entry to balance the books. The fact that the books are in balance, as I said before, does not prove that the entries have been posted to the proper account, or does not prove that all items which were on hand at that date were included in this balance, or vice versa. * * *.

[fol. 1847] Mr. Cummings: I offer in evidence the minute of the Board of October 1st, 1851 of the Williamsburgh Gas Light Company wherein it states: Resolved, that on and

after the 1st of December next charge will be made for all service pipe put in, and that notice be given in the newspapers to that effect.

(Marked Defendants' Exhibit 60.)

My attention was not particularly called to that minute in my examination. It did not to my knowledge, because I referred from the books to the minutes, principally, to check up the principal items.

I did not try to read every page of every minute book. I did refer to the minute books at the time of the opening of the various companies for any particular information, and then I tried to determine from the minute books something to support entries which occurred in these accounts from time to time.

My examination did not disclose the fact that from December 1st, 1851 the company made a practice of charging a householder for the services put in. The first entry that is made in the services was made in 1884 so that I would not have found any such entry. There is no entry in the books showing that they followed that practice; there is no entry in the books, showing that they charged the services to the Construction Account from 1851 to 1884. It is only after 1884 that they charged them to Services. Prior to 1884 there was no such account as services.

[fol. 1848] Beginning with 1885 there were credits to the Services Account in various amounts. Prior to that there were no credits to this account. I found no particular mention made of how much money the consumers had paid into the Company for services which had been laid from December 1, 1851, down to 1884. I don't recall that I found any particular items that would fall under the heading of payments made by various persons that I thought were householders.

I did not have particular reference to that fact, but I did try to find the credits to any Equipment Account that would have been made from time to time. For instance, as an illustration, if the services had been charged to Construction and the consumer's payments had been credited to Construction, I probably would have found that particular phase and considered that it had been handled through the Construction Account, but, I do not recall any

such amounts until 1884, when the account was opened to cover that. From 1851 down to 1884, it is possible that included in some of the credits to the Construction Account, there may have been a few of those amounts paid by the consumers at the time the services were installed. You see, they ran this Construction Account as a sort of a dumping ground for everything, which makes it pretty hard to pick out any particular item and identify it. There is no information prior to 1884, that I recall, upon which I can base an opinion as to how they handled the services. There are credits to those accounts from the cash book—or to the [fol. 1849] Construction Account from time to time, and it is possible that included in some of those credits there are small items which apply to the consumers for services installed. That is only a possibility. I could look that particular point up and report on that at another time.

I cannot state, prior to 1884 that my examination of the books, the books of account and the minute books, made me aware of the fact that they were, in fact, charging the householders for the installation of services. The examination of the minute shows that they were going to do that. The effect of my testimony is that I found nothing in the books of account tending to show whether or not the resolution of the Board of Directors with reference to charging for the installation of services was carried into effect. If it had not been carried into effect, the services would have possibly been charged to construction, and possibly not. I found no such charge which I could identify as such. * * * [fol. 1850] Referring to the resolution of July 30, 1856, Exhibit 294-CC, reciting, on motion Sundry items charged to the account of Construction since January 1, 1856, were directed to be charged to Gas Manufacture or Repairs, and for the future, all items for repairs to be charged in the same way to gas manufacture. The interpretation which would be put on it from reading it would be that they had been charging Construction with repairs, and that they were going to change their method and charge it to gas manufacture, but, there is no detail really to support the charges which had been made to tell whether or not they were properly classified as repairs. After reading that resolution, for the few months involved the assumption would be that prior to that time they had been charging the

repairs to Construction Account, and from that time on they were going to charge them to Gas Manufacture.
[fol. 1851] According to the minutes, the books of the company were frequently examined by a committee, and they reported, that they found them correct and kept in a satisfactory manner.

According to the minutes of January 12, 1857, Exhibit 294-DD, where it states, "On motion the secretary was directed to debit Gas Manufacture Account with the item of $12,000 for wear and tear works and credit work with an equa*p* amount." It is $12,000 set aside for wear and tear of the works. The fact that it is an even amount and no description of how it is worked out, does not tell us just what they had in mind, or why they established that amount.

I have a record of the minute of January 11, 1858, Exhibit 294-EE, where it says, "On motion it was ordered that an account of stock of meters on hand belonging to the company be taken, and that Construction Account be credited with the same, and that a Meter Account to be opened and kept from January 1, 1858, charging it with an equal amount." I have a record of that; January 11, 1858. It shows that they tried to establish an account for meters and take from the construction account a certain part of same to cover meter costs. I think they mention the fact that they did take an inventory taken of the stock of meters on hand. It says, on motion it was ordered that an account of stock of meters on hand belong- to the company be taken. I didn't find any inventory. That had not been taken at that time. There is a journal entry in which there is a transfer to the Meter Account of $14,462.43. I believe in that they give a list of the meters and the parts, in that [fol. 1852] journal entry. I haven't the full detail now. I have a note that the information is in there about meters and costs. It shows the various size meters. I am under the impression that you can get their valuation on various sizes of meters from that entry. That would not be the first journal entry, it is Journal B. I will have to wait until I get the ledger to refer to the entries. It was not made in one entry. I think you will find there were several entries. There are two dates that I have here covering the transaction.

There is an entry charging meters and crediting Construction with $14,209.93, and it says "For the following meters to the debit of the former account and to the credit of the later account." Then under the detail it says "See minutes of Board of Directors January 11th, 1858, and February 11th, 1858." The details show:

2-light wet meters,	31 at	$7.50	$232 50
3- " " "	525 "	8.50	4,462 50
5- " " "	410 "	10.50	4,305 00
10- " " "	74 "	13.50	999 00
20- " " "	10 "	18.00	180 00
45- " " "	3 "	30.00	90 00
60- " " "	1 "	45.00	45 00
Making a total of 1,054 wet meters			$10,314 00
2-light dry meters,	2 at	7.50	15 00
3- " " "	365 "	8.50	3,102 50
5- " " "	144 "	10.50	1,512 00

[fol. 1853]

10- " " "	12 "	13.50	162 00
20- " " "	7 "	18.00	126 00
30- " " "	2 "	24.00	48 00
522 dry meters for			$4,965 50

making a total of $15,279.50, from which is deducted 7 per cent, with the explanation "Less 7%, $1,069.57," leaving a net amount transferred of $14,209.93. I am reading from Journal 1-D of the Williamsburgh Gas Light Company, page 116, January 1st, 1858. I know nothing further about the entry in there except as shown by that record. I don't know whether the entry made there was at the then selling price of the meters, there is no detail to show how they arrived at these figures. I don't know from the information in the books, that meters are ordinarily sold on a list price and that there is a discount which varies from time to time. From the information I obtained from the books, I merely got the names to whom payments were made for the amounts charged to the Meter Account. I

did not get the number of meters or the cost of the meters shown in the purchases. There is another small amount of $252.50 transferred the same way, later in the year. It is practically the same information. That was an additional transfer from the Construction Account to the Meter Account. This is December 31st, 1858, a charge to Meters and a credit to Construction for $252.50 for "The following meters to the debit of the former account and to the credit of the latter account, not including in the account of stock, January 1st, 1858:"

[fol. 1854]

4 5-light wet meters at $10.50	$42 00
27 3-light wet meters at 8.50	229 50
The 31 meters at a total of	271 50
Less 7%	19 00
Leaving a net amount transferred of	252 50

It would seem from these entries that the purchase of these meters had been charged to Construction prior to this, and that they made an entry at the first of 1858 and transferred a tabulation that they worked up to the Meter Account, and that later they found that they had not transferred the proper amount and they transferred $252.50 more. * * *

[fol. 1855] That is Plaintiff's Exhibit No. 294-KK.

Referring to the Real Estate Account relating to the purchase of the Ely property, I found on May 10th, 1860, that a bond and mortgage was assumed of $43,000 and charged to Real Estate, and that payments between January 1st, 1855, and May 10th, 1860, were charged of $5,381.10. I don't know what they purchased it for. I did not identify that particular property for any specific purpose. There is a reference that this bond and mortgage covers the Ely property. My examination showed that the Ely property was at North 11th and North 12th Streets. I do not know where the present works of the Williamsburgh Company are located. * * *

[fol. 1856] Under date of the 26th of June, 1862, there was a check drawn on the Manufacturers' Bank to T. M.

Ferguson, on account of pile driving at the new gas works. It does not say how many piles. $450 on account of those piles.

Further calling attention to the minutes of April 7, 1862, where Mr. Thomas read the proposals from two or three parties, in regard to building gas holder guide form, iron roof, and finishing castings, and so forth, and after canvassing the whole matter, a contract was entered into with Messrs. J. W. & J. F. Starr, as per their proposal on file for the sum of $65,000 for such work and material as the company required by their plans and specifications as exhibited by the superintendent, Mr. Thomas.

Under date of September 10, 1862, there is credited to J. W. & J. F. Starr, and charged to construction $10,000, this amount being the first payment on account of contract of April 26, 1862. It does not say what that contract is, but we can assume, we have to assume that that is the one that is in there, and that this is on account of that. There is a total of $40,000 treated this way between September 10th and December 10th, 1862. That payment to J. W. & J. F. Starr of $10,000 was on September 10, 1862. * * *

[fol. 1857] Referring to the minutes of March 13th, 1871, the following resolution was adopted: "Whereas the real estate belonging to the company has been charged upon its books with $52,169.28." I find a charge to Real Estate and a credit to Profit & Loss for $247,830.72.

Under date of February 28th, 1871, and it states "Per resolution of the Board of Directors, February 13th, 1871."

The resolution further states that the Contingency Ac-

[fol. 1858] count be credited and Profit & Loss Account be charged with $500,000 so as to balance the account known as the Contingency Account on the books. They were carrying a Contingent Account. I believe they could make any credits to the Contingency Account. The proper title of that account is, Contingent Account. I couldn't tell you definitely exactly what happened to that particular account. * * *

[fol. 1859] Through 1865, there are credits to the Construction Account of small amounts. I cannot tell offhand the small amounts that appear at that time. If I had that ledger, I could tell. I need Ledger C.

I recollect there was a minute with reference to the new gas holder and power to sell the old gas holder. (Exhibit 294-XX). The period of January 11, 1869, where it states, "Executive Committee reported progress in the matter of selling the old gas holder corner 5th Street and North 8th [fol. 1860] street," is the period when that set of books was out of balance. The ledger itself is out of balance, and the amounts that are opened in the new ledger, which immediately follows, do not agree with the amount shown at the closing period of this book, to which you have referred. There is no credit at all in the Construction Account during 1865, and there is just $84 credited to it in 1866. Nothing is credited in 1867 and nothing credited in 1868. That book goes down to 1868. The book is just left without any closing, and it does not agree with the new book.

Mr. Cummings: I will read into the record this minute of April 11th, 1870, where it refers to the letting of the second, third and fourth floors of the New Office building being left with Mr. Hicks with power. I want to show that they did actually build a building. I cannot say whether there is a credit made to the Construction Account for the sale of the old gas holder without the next ledger.

The Master: What is the question?

Mr. J. A. Dykman: July 10th, 1871.

Mr. Cummings: Yes.

A. It is rather difficult from my analysis to tell how much the Construction Account stood. I have taken the entire period covered, and I have charges for the various things that accumulated for the entire period, so that I would not be able to give you the balance at any particular date from my sheets. I could not possibly tell that. Between Janu- [fol. 1861] ary 1st, 1869 and December 31st 1874 the only credits in the Construction Account are the transfers to the Office Account and they opened up an account called New Office Building. They opened that up on June 30th, 1870 and then subsequently they closed it up. In other words, they closed out that particular account and carried the office building in the Construction Account. They transferred the balance. The Construction Account stood on the books just prior to July 10th, 1871, $896,828.03 and

to that amount they added this $500,000, which they thought was the true cost of the works, mains and so forth. They made a charge to that account and a credit to Profit & Loss of $500,000. * * *

[fol. 1862] I offer in evidence the minute of August 12th, 1878, where it says:

"The Committee appointed July 8th, 1878, to report at the next meeting of the Board of Directors in regard to the gas meter account, offered the following preamble and resolution, which, on motion, was received and unanimously adopted viz:

"Whereas the account in the company's books known as the Meter Account stands charged at this date with $68,-540.95, an amount very much in excess of the present estimated value of the property which the account represents (owing to a large depreciation from use, reduction in cost and also a great many of the meters having been condemned as worthless) and whereas it is desirable that the said Meter Account be reduced in amount so as to represent as soon as practicable the true value of the company's meters on hand, it is therefore resolved that the secretary be directed to credit the Meter Account with $13,540.95 and charge Profit & Loss with an equal amount of $13,540.95, and the Committee also recommended that in the future all new meters purchased by the Company be charged to Gas Manufacture and that the present Meter Account be further reduced [fol. 1863] after in January and July of each year as the estimated value of the meters then on hand may seem to demand, and the Profit & Loss Account will warrant."

The minutes of January 8th, 1879, recording the deduction of $14,639.25 from the Meter Account, charged to Profit & Loss, received in evidence and marked Plaintiff's Exhibit 295-B.

I could not tell offhand how much the Meter Account was charged with on January 1st, 1879.

Mr. Cummings: I will read this into the record:

"The following preamble and resolution was read to the Board and on motion adopted viz: Whereas the Commit-

tee on Meters recommend under date of August 12th, 1878, that the Meter Account be reduced hereafter in January and July of each year, as the estimated value of the meters then on hand may seem to demand, and the Profit & Loss Account will warrant; and whereas the Meter Account stands charged at this date upon the company's books with $54,992.50, and the estimated value of the meters now on hand amounts to $40,353.25 it is resolved that the secretary be directed to credit the Meter Account with $14,639.25, and charge Profit & Loss Account with an equal amount of $14,639.25."

The books show that these transfers were made.

In my examination of the minutes, I found that the books of the company were regularly examined by the Committee of Accounts and reported as having been found correct. I did find that on June 1, 1879, the Meter Account was credited with $9,353.25, leaving the Meter Account charged with $31,000 as their present estimated value. I found a credit [fol. 1864] under date of July 15th to the Meter Account and a charge to Profit & Loss of $9,353.25. The method of arriving at the amount: Leaving the meter account charged with $31,000, present estimated value, according to the minutes, and the book is in round figures $31,000. It was the practice at that time to charge certain amounts to the meter account, and at the end of the month, or corresponding days, to make credits to the Meter Accounts, and charge Gas Manufacturing with a similar amount. * * *

[fol. 1865] I found no credits to the Construction Account between January 1, 1869, and December 31, 1874, excepting those that I referred to, the transfers. I am pretty sure there are no credits in the next five years (referring to books). There are no credits to the Construction Account between January 1st, 1875, and November 30, 1880, at which time the last posting is made in this book. At the end of ledger E, November 30, 1880, the Construction Account stood with a balance of $1,789,847.90 * * *.

[fol. 1866] In the Williamsburgh Gas Light Journal H, January 31st, 1891, there is a charge to Meters and a credit to the First National Bank, No. 7373, paid to J. Hilleon, bill of December 12th for 25 5-light meters at $9.50 less 35% and the amount is $154.38. Under date of January 31st,

1891, the same company, the same journal, a charge to meters and a credit to the First National Bank paid to J. J. Griffin Company:

December	16th,	50	3-light meters at.....	$7.50
December	18th,	50	5- " " ".....	9.50
December	20th,	5	3- " " ".....	7.50
January	8th,	50	3- " " ".....	7.50
Also		50	5- " " ".....	9.50
January	15th,	12	20- " " ".....	16.50
January	21st,	100	3- " " ".....	7.50
January	21st,	50	5- " " ".....	9.50

Less discount of 33 1/3%, on page 24.

April 24th, 1891, Journal H, page 24, Williamsburgh Gas Light Company, there is a charge of $100, and a charge to Meters of $450; a credit to the First National Bank, paid [fol. 1867] J. J. Griffin & Company for two vacuum gauges, $50 March 24th.

March	12th,	50	3-light meters at.....	$7.50
March	31st,	25	10- " " ".....	12.00

Less 33 1/3%.

October 8th, 1891, folio 60 of the Journal, a charge to meters and a credit to the First National Bank, No. 7627, paid to John J. Griffin & Company for 50 3-light meters; 50 5-light meters; August 26th; September 14th for 25 10-light; September 16th, 50 5-light. The 10-lights at $12 and the 5-lights at $9.50; 3-light at $7.50 less 33 1/3 per cent.

Page 77: That entry is on December 18th. December 18th, a similar entry, paid to John J. Griffin & Company as follows:

September	18th,	50	3-lights at.....	$7.50
September	24th,	50	5- " ".....	9.50
		50	3- " ".....	7.50
September	28th,	2	100-lights at.....	75.00 each.
September	30th,	50	5- " ".....	9.50
		50	3- " ".....	7.50
October	31st,	5	20- " ".....	16.50
		1	60- " ".....	45.00
		1	100- " ".....	75.00

Less discount 33 1/3% on January 29th.

[fol. 1868] Brooklyn Union Gas Company

Brooklyn, N. Y., June 8, 1924.

C. B. Mount

Cross:

I have checked the analysis of the Construction Account of the Williamsburgh Gas Light Company from January 1st, 1885 to December 31st, 1890 as shown upon these sheets bered 1 to 16, which sheets are marked for identification; tion;

(Thirteen sheets marked Defendants' Exhibits 63 for identification.)

and also checked the analysis of the Construction Account of the Williamsburgh Gas Light Company from January 1st, 1891 to November 4th, 1895 shown on the sheets numbered 1 to 16, which sheets are marked for identification;

(Sixteen sheets marked Defendants' Exhibit 64 for identification.)

also I have checked the sheet headed "Cost of and Amount of Pipe Charged Construction Account, January 1st, 1881 to December 31st, 1884, Williamsburgh Gas Light Company," consisting of one sheet.

(Sheet marked Defendants' Exhibit 65 for identification.)

I have checked the sheet entitled "Williamsburgh Gas Light Company, Cost of and Amount of Pipe Charged Construction Account, January 1st, 1885 to December 31st, 1890," consisting of two sheets.

(Two sheets marked Defendants' Exhibit 66 for identification.)

I have checked the sheet entitled "Pipe Purchased by Williamsburgh Gas Light Company from April 10th, 1891 to October 29th, 1895," consisting of three sheets.

(Three sheets marked Defendants' Exhibit 67 for identification.)

I have also checked the two sheets entitled "Williamsburgh Gas Light Company, Meters Purchased January 1st, 1875 to December 31st, 1880."

[fol. 1869] (Two sheets marked Defendants' Exhibit 68 for identification.)

I have checked the sheets entitled "Williamsburgh Gas Light Company, Meters Purchased January 1st, 1881 to December 31st, 1884," consisting of two sheets.

(Two sheets were marked Defendants' Exhibit No. 69 for identification.)

I have also checked the sheets entitled, "Williamsburgh Gas Light Company, Analysis of Meters Account from January 1st, 1885 to October 29th, 1895," consisting of nine sheets.

(Nine sheets marked Defendants' Exhibit 70 for identification.)

I checked the sheets entitled "Williamsburgh Gas Light Company, Analysis of Services," consisting of 18 sheets, from January 15th, 1895 to November 4th, 1885.

(18 sheets marked Defendants' Exhibit No. 71 for identification.)

I have checked the sheet entitled "Williamsburgh Gas Light Company, Collection from Consumers on Account of Services, from 1884 to 1895 inclusive.

(One sheet marked Defendants' Exhibit No. 72 for identification.)

Mr. Cummings: Now, if the Court please, I offer in evidence Exhibits 62 to 72 inclusive, for identification, relating to the Williamsburgh Gas Light Company.

(Objected to on the ground that they have not been shown to be correct.)

I find the sheets are full of various kinds of errors. There are errors of quantities, errors of rates, errors of money.

[fol. 1870] (The entries in the books referred to in above exhibits for identification were received in evidence as Defendants' Exhibit No. 73.)

On my exhibit No. 297, I have set out the closing entries of the ledger balances of the Williamsburgh Gas Light Company. In my examination of the books with respect to the company charging the householder for the installation of services, I found credits to the Service Account, after the Service Account was opened in 1884, through the Cash Book. Various items from time to time, credited to the Service Account through cash received.

I recall having that read to me, a resolution passed by the Board of Directors to charge the householder for the services—passed in 1851. There was no account carried during that period. I cannot identify charges made. The reason we restored the sum of $9,264.90, and also the sum of $141,723.85, shown in my Exhibit No. 297 opposite the word "Services" relating to the Williamsburgh Gas Light Company, and why we added those two figures to the amount of the ledger balance of $17,225.70, it was the custom in that period for charges to be made to the Service Account. Also credits were made through the cash book, and I have deducted from the total amount of the charges, the amount of the credits—the books, rather, show the difference between the amount of the charges and the amount of credits up to December 31, 1894, as being transferred to profit and loss through the Gas Manufacturing Account. That is, each year the total amount charged to that account was transferred at the end of the year, after the various credits had [fol. 1871] been applied to the Profit and Loss Account, through the medium of the Gas Manufacturing Account. The amount so transferred to Profit and Loss through that period amounted to $141,723.85. The total amount charged to the Services Account between the dates that this account was opened—January 1, 1884, and October 31st, 1895, amounting to $168,214.45. The difference between money columns 3 and 4, added together, and column 2, is the amount that I have set forth in column 5.

I could identify only credits to the account charge made against consumers for services, to the cash book. These items are not fully explained as paid by consumers for services; therefore, I say I could not identify them. These are

ledger items. The source of those ledger entries are the journal and the cash book. Those books do not contain specific record of charges to customers for services. That is what I spoke of before.

In some instances the cash book says "for collections." I have not got the Cash Book here or a transcript of the entries. I have the amounts each year. Certain sums were charged to Profit and Loss each year. The difference between the debits and credits were transferred; not all the account was transferred; that is, all the debits were not transferred. The difference was transferred. This amount of $141,723.85 I found carried as Gas Manufacture in the Gas Manufacturing Account, instead of the Construction Account. The Gas Manufacturing Account is an operating account; I assume that that is correct. This sum of $141,723.85 had been so treated by the Williamsburgh Company, as an operating expense.

[fol. 1872] In my examination of the books of the Williamsburgh Gas Light Company I found various credits in Construction Account from time to time, most of them without explanation, or with the explanation "Amounts charged off." I have the net amount. There were some transfers back and forth. The net amount that was credited by reason of withdrawals, I could not give.

The Williamsburgh Company, for a certain period at the end of each year did not transfer to profit and loss the debits made to the Construction Account. They had a balance of $1,700,000 in the Construction Account, and all additions, whether for buildings or whatever was charged in that period, at the end of each year the total amount was transferred to Profit & Loss. They maintained the Construction Account at $1,700,000 for a considerable period of years.

In December 21, 1856, there was a charge to Gas Manufacturing from this Account of $12,000. It is so states that was for wear and tear, but, it is a round figure, an even $12,000. December 31, 1881, there was a transfer to Gas Manufacturing of $9,336.89. A transfer from Construction to Gas Manufacturing. It states, "New apparatus, made, etc.; payments made in 1881."

December 30, 1882—as I go along. I have not the folio, but I have the date where these entries appear. December 30, 1882, there was a charge to profit and loss for new work done and sundry meters purchased in 1882, $13,402.75.

December 31, 1883, a charge to Profit & Loss and a credit to Construction for new work done and sundry meters pur- [fol. 1873] chased in 1883, $2,685.50.

December 31, 1884, a charge to Profit & Loss and a credit to Construction for new work done and sundry new meters purchased in 1884, $113,754.29.

December 31, 1885, a charge to Profit & Loss for new work done in 1885, $27,010.71.

December 31, 1886, a charge to Profit & Loss, with the same explanation, "New work done in 1886," $19,432.41.

December 31, 1887, Profit & Loss charged. "The amount charged off" is the explanation appearing, $33,381.56.

December 31, 1888, Profit & Loss, being the amount charged in 1888, "Charged off," $48,143.16.

December 31, 1889, Profit & Loss charged, "For this amount charged off," $186,141.26.

December 31, 1890, Profit & Loss charged, "For this amount charged off" $64,477.38.

December 31, 1891, explanation "Amount charged off," $98,065.90.

December 31, 1892, explanation "Amount charged off," $81,843.64.

December 31, 1893, no explanation at all in the Journal, $232,758.22.

December 31, 1894, no explanation in the Journal, $107,- 025.62.

Where there has been no explanation, it represented the amount charged off, the amount that had been charged to the Construction Account. It was the net amount to Construction during the year. If there had been any small credits during the year, that was applied against the charge. The credits were very small, all throughout that period. [fol. 1874] There is detail for some of these Construction items in the books.

I do not recall any such transaction from 1884 down to 1895 in the books of the Williamsburgh Gas Light Company any credit in the Construction Account for withdrawals

of property or abandonment of property. The fact is there are some credits to that account, although small, as Mr. Cummings has stated, and it is possible that some of these might represent something of that nature. There are credits for cash collections. They would not credit cash or withdrawals. It might be something sold, some parts of that property. I found a few credits in there referred to as pipe. I don't recall that it was referred to as old pipe.

My examination of the Construction Account of the Williamsburgh Gas Light Company showed several notations that there were small items of repair charged to Construction and it also appeared that labor had been charged to Construction throughout the period, and that engineering had been charged to Construction; legal services into the Construction Account and salaries into the Construction Account. I think repairing asphalt pavement is infinitesimal. I remember that reference to one item of asphalt pavement, only one item. I could not tell the amount of that. I do not recall a resolution passed in respect to the sale of an old gas holder, that any credits in the Construction Account were found for that.

The amounts charged off each year to profit and loss totaled $1,049,459.29.

[fol. 1875] As to how I reached my figure of $604,276.91 marked "net," it is an account called "New Benches" in the book in which certain charges appear, and the total amount is transferred to Profit & Loss. The amount of this is $4,394.39, identified by ledger folio 175, Volume G, Williamsburgh Gas Light Company. That is another sum that was charged off to Profit & Loss. I got the net of $604,000 as follows:

They assembled figures in various accounts and transferred them to Construction. This one they transferred direct to expense. Had I tried to show each one separately I would have had so many more lines on this statement, that is all it amounts to. I would have had that same amount under another caption on this sheet. I have testified to an aggregate sum of one million dollars odd. I showed on my exhibit an item of $604,000. I am giving $4,394.39; that should be added to the sum, that I have given you before of $1,049,459.29.

There is an account called "Coal Shed Wall" Williamsburgh Gas Light Company, Ledger Folio 271, Volume G. The amount is $5,423.23. There is another charge to Profit & Loss, that should be added to that amount. There is an account called T. F. Rowland in which charges of $45,000 appear, which is found on Ledger Folio 257, Volume F, and ledger folio 195, Volume G, of the Williamsburgh Gas Light Company. The amount transferred to Profit & Loss is $45,000. Then, under date of July 10th, 1871, according to the resolution of the Board of Directors there is a charge to the Construction Account and a credit to Profit & Loss of $500,- [fol. 1876] 000. I have deducted this $500,000 from the total of the various other items that I have read and the net amount is $604,275.91. The authorization has already been read in evidence. It hasn't any connection with the amounts charged off. The $500,000 is a specific entry based upon instructions of the Board of Directors embodied in a resolution. The other items are items that the witness found upon the books and treated as he has stated.

$233,529.42 net for meters under the caption "Transferred to P. & L.", represents $198,320.42 charged direct to Profit and Loss. I will read each item that adds up to that.

And $35,208.96 charged to Profit & Loss through the Gas Manufacturing Account over a period from 1854 to 1894 inclusive. Those figures are the aggregate of items appearing through those books. I found from 1879 on each year the company made a memo of the gas meters on hand together with their estimated value, and then charged off certain sums to Profit & Loss. Beginning with August 13th, 1878, they began to charge off various amounts to bring it down to an even figure of $31,000. I have restored, or added back those various amounts which the directors had charged off to Profit & Loss in my column headed "Total". What I have done is to put a column headed "Total" upon my exhibit in which these various amounts charged off appear as part of the aggregate figure. The total of the balance appearing in the books at the time the companies were taken over, the total amount charged to Profit & Loss during the period covered by the books, [fol. 1877] which I could ascertain from the books, and the amount that appears in the last column to restore services.

My total represented, after I had added back these various amounts of money, merely the amounts shown on the books, with nothing charged off. Meters condemned were not included in this. If it is charged direct to Profit & Loss I included it. Everything that was charged off pursuant to the resolution of August 12, 1878 was included by me in the amounts which I restored or transferred.

The resolution is put in evidence now and reads as follows:

"The Committee reported that the Meter Account has been charged on this date with $68,540.95, an amount very much in excess of the present estimated value of the property which the account represents (owing to a large depreciation for use, reduction in cost and also from many of the meters having been condemned as useless) it being desirable that the said Meters Account should be reduced in amount so as to represent as near as practicable the true value of the company's meters on hand, directed that the meter accounts be credited with $13,548.98, and Profit & Loss be charged with an equal amount."

The minute of August 12th, 1878, which is also in evidence, and which concludes on that date is as follows:

"It is therefore resolved that the Secretary be directed to credit Meter Account with $13,540.95 and charge Profit & Loss with an equal amount of $13,540.95. And the Committee also recommend that in future all new meters purchased by the Company be charged to Gas Manufacture, and that the present Meter Account be further reduced [fol. 1878] hereafter in January and July of each year as the estimated value of meters then on hand may seem to demand and the Profit & Loss Account will warrant."
* * *

[fol. 1879] (Entries received in evidence and marked Defendants' Exhibit No. 82.) * * *

I found in the book entitled, "Monthly Statements of the Metropolitan Gas Light Company," certain cash receipts for service pipes for the years 1872 to 1879 and 1889 to 1895, listed under "Service Pipes". I also found in that book cash receipts for lamp posts and services. I did not trace them into the account which carries the city of Brook-

lyn, not that particular thing, to ascertain whether the city of Brooklyn had paid the Metropolitan Gas Light Company for the service and lamp posts. I did not ascertain how they came to have receipts for service pipes each month. I know that there are credits for the service pipes each month, and I know that the book you refer to by that [fol. 1880] schedule is in existence, and has some credits to the Service Pipe Account. In practically every month there is a credit to that account, service pipes.

My examination did not disclose as to whether the Metropolitan Gas Light Company received these receipts for service pipes of consumers. There was no cash book, except from that statement you have. This is cash received for service pipe, according to this statement, but, I could not ascertain how they got any cash each month for service pipes and I drew no conclusion from that. The account called Construction, Wilkinson Process is marked Exhibit No. 81 for identification. The account showed that they were accumulating various debits under an account called Wilkinson Process, from the date July 31, 1892, to April 30, 1893 and the total debits to that account, Wilkinson Process, during that period was $104,034.91. And then they transferred that amount from this account called Wilkinson Process, to their Construction Account, and closed out this account, on November 12, 1894.

On Defendants' Exhibit No. 80 for identification, sheet headed "Cost of Holder No. 3" I found in the books items referred to as Holder No. 3. I found the items to which you referred—which states that they applied to Holder No. 3, but there are others which do not state what they are, and may be part of the cost of that holder, in addition to that. That is not part of the entries referred to on this sheet marked, Defendants' Exhibit No. 80 for identification, all of the items referred to in this particular list are referred to as Holder 3, but there are other items in [fol. 1881] that same period in the same account, that do not appear upon Defendants' Exhibit No. 80 for identification and they may apply to that particular item. All of those items are marked "Holder No. 3." I don't think there may be other items which the company did not mark, "Holder No. 3", which may be part of the cost. I don't know. Nobody knows. May or may not be, as far as I

know, most any item might have applied to Holder No. 3 in that period.

I cannot tell the additional items which my examination showed which may or may not relate to the cost of the holder offhand, but I can say that the items to which I refer are marked in Pencil, and they may or may not be marked at the same time the entry was made. I don't think they are marked in ink. There is no cash book for this period. The Metropolitan is the book referred to on Defendants' Exhibit No. 80 for identification, marked in the ledger "Cost of Holder No. 3."

In Defendants' Exhibit 76 for identification, entitled "List of Bills to be paid and payments to be made on account of tank and holder," calling your attention to the Minute Book of the Metropolitan Gas Light Company, page 40, the minute of September 21, 1872, which is in evidence, "Proposal of J. P. Kennedy to construct tank and holder, without building, for $72,567 or $84,500 with a building." I find payments to J. P. Kennedy on account of tank and holder, and also to Mr. Stanley, the engineer, minute of September 25, 1872, to superintend the erection of the tank and holder, and payments made to J. P. Kennedy aggregating $72,567, the exact amount mentioned in the resolu-[fol. 1882] tion of September 21, 1872. In my examination of the books of the Metropolitan Gas Light Company, I did not find any credits to the Construction account for withdrawals or abandonment of property.

Referring to Exhibit No. 297, under the caption, "To restore services," the total charges to the Service Pipe Account from 1872 to 1895, October 31st, amounted to $81,093.95. The balance remaining $18,210.48 in this account on November 4, 1895, merely represented the additions from January 1, 1893, to 1895. They had charged off the balance remaining in this account at the end of each year until December 31, 1892. After that time they allowed the balance to accum-late. I added to the balance of $18,210.48, $62,883.47, to agree with the figure aggregating the amount charged to this account throughout this period. They first opened the account Services in 1872, and then at the end of each year they charged off out of this account, To Profit & Loss, either through the Gas Manufacturing, or to Profit & Loss direct.

I have here that they charged it to Profit & Loss; I am not absolutely sure whether it ran through the Gas Manufacturing Account in some years or not. If they charged to Gas Manufacturing at the close of the year I can't say that it would indicate to my mind anything. If they should charge it to profit and loss it would merely indicate that they were writing off the balance in the account. The books do not indicate any reason for doing that. I stated that there were credits in the Service Pipe Account, which [fol. 1883] which may or may not be entirely for services charged, from 1872 from 1879, each month, but not shown on that schedule, Defendant's Exhibit 74, for identification.

The schedule marked Defendants' Exhibit 74 for identification does not correctly set forth the amounts which were received for gas services during the years 1870 to 1879, 1879 inclusive.

I have checked those nine sheets entitled "Brooklyn Gas Light Company, Extracts from Journal A," Marked Defendants' Exhibit 83 for identification. The two sheets entitled "Brooklyn Gas Light Company, Extracts from Journal B," I have checked.

(Marked Defendants' Exhibit 84 for identification.)

There is an account on the Brooklyn Gas Light Company books called "People's Gas Light Company," referred to in ledger folio 212, Ledger B. This amount is credited on February 28, 1870, with a cash payment of $357,000, and it is credited under date of March 31, 1870 with loans of $143,000, making a total of $500,000.

The amount agrees, the time of payment is the same, and it is a receipt from the People's Gas Light Company, all of which agree with the minutes. The cash book and the journal are on hand for that period and support the entry. There is a cash entry showing the receipt of $357,000, and there is a journal entry showing the credit of $143,000 to the People's Gas Light Company.

There was a journal entry on page 287 with reference to it, April 5th, 1871. There is a charge to Sundries and a [fol. 1884] credit to Profit & Loss. For this amount credited to Street Mains and Services and Meters Account, Journal folio 287—I am sorry, but I haven't the detail right

here for that particular journal entry on 287, but I can give you the amounts on April 5th, which were charged to the Peoples Gas Light Company. That is what you have reference to.

There is a charge from the Street Mains Account of $111,000, and a charge from the Service and Meter Account of $72,000, *and a charge from the Service and Meter Account of $72,000*, and a charge from the Profit & Loss Account of $317,000, making up the $500,000. That is credited to Profit & Loss and charged to the People's Gas Light Company account. It says "Street Mains, amount of District set off to them, $11,000." All services and meters in the district set off to them, The People's Gas Light Company, charged Construction under date of February 1, 1870, $500,000, Brooklyn Gas Light Company for territory purchased from them as per contract, covering meters, mains and pipe in such district, paid in cash and entered on Journal folio 25.

There is an account on the Brooklyn Gas Light Company books headed, "Nassau Gas Light Company." This account is charged by a transfer from Street Mains with $139,000, and a transfer from Services and Meters of $78,000, and by a charge from Profit & Loss of $783,000. On the Nassau Gas Light Company accounts there is an account set up called "District." This is charged with $1,000,000 paid for the district. There are journal entries in connection with that. That was under date of June 1st, [fol. 1885] 1871, and that charge is made to the District Account. In January 1st, 1886, there is a charge made to Street Mains covering 71 miles of pipe laid to January 1st, 1885, the amount if $355,000. I haven't the full journal entry. I am giving the substance of it. It says $5,000 a mile, it proves anyway. I recall the journal entry. It is 71 miles of pipe laid to January 1st, 1885 at $5,000 a mile, $355,000; branches estimated value, $5,000; a charge to Services & Meters for $6,862 meters at $7.12 to January 1st, 1855, the amount of $48,857.44; 9,154 services at $7.50, $68,730; the charge to Profit & Loss for Street Mains expended in 1885, $7,104.36; charge to Profit & Loss for services and meters expended in 1885, $11,311.37; under date of December 31st, 1886, a charge to Profit & Loss for Street Mains expended in 1886, $7,528.35; for services and meters

expended in 1886, $14,023.71; charge to Profit & Loss with no detail being given of $200,000; under date of December 31st, 1886, a charge to Profit & Loss for Street Mains, $30,266.73; a charge to Profit & Loss for Services & Meters of $14,903.80.

Under January 1st, 1889 a charge to Profit & Loss for Street Mains $22,602.44; for Services & Mains, $18,763.38; for General Office, $22,403.45; under January 1st, 1890 a charge to Profit & Loss for Street Mains, $14,963.93; for Services & Meters, $22,463.55; for Stable Buildings $7,659.68; December 31, 1890, Profit & Loss is charged to balance the account to date, $128,417.81. That is my answer as to how it was treated upon their books. When the transaction was entered on the books in 1886 there was a profit and loss,—that is a balance of about $477,587.44. Subse-
[fol. 1886] quent to this transaction in 1886, the Company charged off to Profit & Loss each year sums to balance the amount $477,587.44 for over a period of several years.

There is no record on the books of the Brooklyn Gas Light Company, the books of account, to show that it is a sale of anything to the Citizens Gas Light Company.

In the Brooklyn Gas Light Company's books I find under date of July 6th, 1858 a credit to the Construction Account of $48,700 marked "Depreciation 11%." I find under date of April 30th, 1860 a credit to Construction Account of an even $100,000, marked "Depreciation," with no explanation other than that.

I find under date of October 5th, 1866, a charge to Construction Account of $148,700, reversing the two entries I have read before. The date of the last transaction is October 5th, 1866. The prior to 1866 they have charged off, $148,700. They referred that back, to restore it. My examination showed that at times there was old pipe sold by the Brooklyn Gas Light Company.

Under date of May 8th, 1893, they charged to Profit & Loss and credited Services & Connections $147,548.28, the entire balance in the Services & Connections Account at January 1st, 1893. December 31st, 1893, they credited Services & Connections and charged Gas Manufacturing $17,672.30. Under date of December 31st, 1894, they charged Gas Manufacturing and credited Services & Connections, $20,550.16, the latter two items being the entire

balance in that account at the end of those two years. The total of those three amounts will give you $185,770.74. [fol. 1887] They had charged the Services & Connections Account first by a charge to the Services & Connections from an account called "Services & Meters," where they had entries from 1866 to 1890, when this transfer was made. That is, they transferred an amount from the account called Services & Meters to an account called Services & Connections; then they transferred that to Profit & Loss. Then subsequently for two years they charged certain items for services and connections into Gas Manufacture; after they had charged it in the Services & Connections account.

Referring to the People's Gas Light Company, there was an account on the books called "Holder No. 3," and under that caption they did accumulate certain debits. The total of debits accumulated amounted to $49,890.20. That was not subsequently transferred to Construction. It is still on the books.

On April 30th, 1895, the Company charged off to Profit & Loss an amount $403,466.12, from Profit & Loss to various other accounts; Journal A, page 188. They charged out of the Construction Account $250,000, and out of the Main Account $100,000. From a tank $43,466.12 and meters, $10,000. They charged that off into Profit & Loss and those are the amounts that I have on my sheet here as being transferred to Profit & Loss. In order to reach my total set out on my Exhibit 297 I have added those amounts to the ledger balances. The total is supposed to show, just the total of the other two. Under the caption, "Total," is the total of the other three columns. I just wanted the total. The company has subtracted them. It represents the final balance in the company's ledger as shown by these balances, [fol. 1888] plus the amount transferred to Profit & Loss in even amounts or odd amounts from time to time during the period covered by the analyses. My total figure represents the total charges made to these various accounts from time to time during that period.

$1,809.35 under the tile "Transferred to P. & L." opposite the caption "Furniture"—I did the same in respect to this item that I did with respect to the previous other items. Restored the amount which had been charged off to Profit &

Loss. That is what I did all the way through this exhibit 297.

I did find under the Fulton-Municipal Gas Company, certain payments made to H. J. Davidson on account of cost of holder built in 1888 and 1889, and the total amount of payments made to H. J. Davidson on account of the holder is $133,900, the cost of the holder as built in 1888-1889. The amount runs from May 31, 1888 to March 1, 1889. The final payment was made on March 1st.

I checked the analyses of the Construction Account of the Fulton-Municipal Gas Company consisting of eight sheets.

(Marked Defendants' Exhibit No. 85 for identification.)

I also checked the sheet entitled "Fulton-Municipal Gas Company, Gas Works Account."

(Marked Defendants' Exhibit No. 86 for identification.)

The sheet entitled "Fulton Municipal Gas Light Company, Cost of Construction, with entries made on April 9, 1879, and on July 12, 1880 I have checked.

(Marked Defendants' Exhibit No. 87 for identification.)

I also checked the sheet entitled "Fulton-Municipal Gas [fol. 1889] Company, cost of holder built 1888-1889," with entries in 1888 and 1889.

(Marked Defendants' Exhibit No. 88 for identification.)

The two sheets entitled "Fulton Municipal Gas Company, Cost of Holder built 1894-1895, I have checked.

(Marked Defendants' Exhibit No. 89 for identification.)

In reference to this last exhibit I found various payments made to the Barlett-Hayward Company for the cost of the holder built in 1894 and 1895. I found the amounts charged on the books that appear on two sheets. I can find copies which I can identify, but there are other charges which I cannot identify for that same period, and I would hesitate very much to state that the total cost of that holder is so much. I cannot identify the total payments. I find an entry in the journal, page 343, which reads: "Barlett-Hayward Company, amount of contract, Scholes Street Holder,

$126,448, and amount of extra work $2,537.90." Totaling $128,985.90.

I also find the payments to Barlett-Hayward Company from June 22, 1894, to March 23, 1895, totaling $128,985.90. The two sheets entitled "Fulton Municipal Gas Company, trial balance November 4, 1895," I have checked;

(Marked Defendants' Exhibit No. 90 for identification.)

also the five sheets entitled "Union Gas Company, Extracts from Cash Books from 1862 to December 27, 1875," I have checked.

(Marked Defendants' Exhibit No. 91 for identification.)

I checked sheet entitled, "Union Gas Light Company, American Meter Company Account in ledger, page 135."

[fol. 1890] (Marked Defendants' Exhibit No. 92 for identification.)

The Citizens Gas Company of Brooklyn and the Union Gas Light Company were merged or consolidated into a company which afterwards was called the Citizens Gas Light Company, and that was done in April, 1892.

The sheets entitled "Citizens' Gas Company, opening entries at consolidation. Union Gas Light Company," consisting of 15 sheets, I have checked. That shows the opening entries in the books of the Citizens' Gas Company of Brooklyn, at the time of the consolidation of the Citizens' Gas Light Company and the Union Gas Light Company. The 15th sheet in that instance is another schedule. I have checked it, but it is not part of those others. It should read, "The opening entries are shown in the first fourteen sheets."

(Marked Defendants' Exhibit No. 93 for identification.)

Sheet numbered 15, entitled "Citizens' Gas Company, trial balance of ledger after opening entries on consolidation of April 1, 1892.

(Marked Defendants' Exhibit No. 94 for identification.)

I also checked sheet entitled, "Union Gas Light Company, Journal entries on page 680 of Cash Book, being a

charge to the Woodhaven Gas Light Company for certain materials."

(Marked Defendants' Exhibit No. 95 for identification.)

The four sheets entitled, "Citizens' Gas Company of Brooklyn, extracts from invoice book No. 1, I also checked.

(Marked Defendants' Exhibit 96 for identification.)

[fol. 1891] The items which are transferred to P. & L. opposite the accounts of the Fulton Municipal Gas Company, I restored back to the ledger balances, in order to arrive at my total, and the Citizens' Gas Light Company evidently made no transfer to P. & L.

I did not find in my examination of the books of the Fulton Municipal Company, or the Citizens' Gas Light Company, any amount charged off by reason of withdrawals, or abandonment of properties. In the consolidation of the Citizens' Gas Company and the Union Gas Company, there was entered in the books the mains and various sizes and number of feet of mains taken over from both companies; and the amount entered in the book, which represented the amount at which they were taken over in value, and the number and size of the service pipes in the ground were also set forth.

I recall it says, "Meters of assorted sizes in use and on hand, including the cost of setting those in use," reference being had to the schedule on file as to the sizes and numbers of each size, and it also refers frequently in that transaction to a schedule on file. I have already stated that I looked for any record that I could find for the schedule which was on file, and which was used at the time of this transaction which led to the consolidation of the two companies. I did not find that schedule.

Mr. Cummings: Now, if the Court please, I offer in evidence the entries in the books which I have referred to in these various sheets marked for identification.

[fol. 1892] Objection; objection overruled. The entries are admitted.

I did not have occasion to check any of the Nassau sheets. We didn't get them until almost noon on Saturday, and we worked on the others right straight through. We had

some of the sheets of the other companies given to us about the same time on Saturday.

Under the Nassau Gas Light Company there is an amount charged off to Profit & Loss of $522,412.58 for "District," which is the balance on the transaction, the purchase of a district from the Brooklyn Gas Light Company. That was all read into the record and I have restored that amount, which I have charged off to Profit & Loss.

[fol. 1893] C. B. Mourt

Redirect:

Referring to my direct examination as to the examination I had made of the books of the seven vendor companies, and how it was possible to determine from them the original cost of construction to the vendors of the property acquired by the plaintiff on or about November 4th, 1895, and my answer, "No, sir, it is not possible." I have not changed my opinion as to any of the entries to which my attention has been directed on my cross examination.

I am still of the opinion that the original cost of construction cannot be determined from the books which I examined and with reference to which I have been cross-examined. I believe you might state inasmuch as reference is made to pieces of pipe at a certain price that the cost of that particular lot of pipe can be assumed to be the cost as shown by the books. We haven't the bill to prove it.

I doubt very much if you can state that it is the true cost of a holder. You can get charges to a holder which may represent part of the cost, but you cannot certify that those are the total charges for that holder. The reason why I say I cannot determine these costs is, not absolutely, because as an accountant I would not feel justified in stating that the cost had been ascertained unless I saw the vouchers supporting the entries, without the information in the books of original entry. If I had the books of original entry from which the ledgers were posted then I would feel I was in a position to state that the books recorded these costs, but in the absence of those books of [fol. 1894] original entry, I am unwilling to say that the books record the cost. That is the analysis of my testimony.

That is not the sole reason for my statement that I do not believe the original cost can be gotten. It is not solely because of the absence of books of original entry. It is the lack of information to prove the charges against these various accounts. In some cases you get an explanation. At the same time that you get an explanation in some cases there are charges against the same account with no explanation. Are we to assume that those amounts which have no explanation apply to this, that or the other thing? I decline to make any such assumption.

It is a fact, also, that in numerous instances where I have a descriptive entry the same book shows that that cost, descriptively shown, is not complete. I have certain accounts carried like Holder No. 3 and under that account there are certain debits and then after a period that is transferred to the Construction Account and also have that under the Wilkinson Process. I have numerous instances of that kind throughout the books, but, I would be unwilling to testify that the company has in that account all of the debits.

Mr. Cummings: I offer the books as shown on this list or statement here, list of books of the vendor companies on hand April 1st, 1924.

The Master: Admitted over the objection of the plaintiff, and the plaintiff excepts.

(Marked Defendants' Exhibit No. 97.)

[fol. 1895] Brooklyn, New York, June 20th, 1924.

C. R. Mount

Cross:

I have looked over some of those sheets which were submitted to you by the accountants of the Public Service Commission, showing certain entries taken from the books of the Nassau Gas Light Company; but I did not check them with the books. I would like to have those books to answer any of the questions. I found quite a few credits to the Construction Account in my examination of the books of

that company. There is no such notation as to whether or not credits were for withdrawals of property. No credit to the Construction Account of the Nassau Gas Light Company for withdrawals of property is found.

Mr. Deegan: I will give these to the stenographer and have him mark them for identification, instead of having to read out each one and saying "I offer for identification sheet entitled so and so as Exhibit so and so for identification."

Mr. Deegan: I ask that the three sheets marked "Summary of Certain Items of Construction Account of the Nassau Gas Light Company" be marked Defendants' Exhibit No. 98 for identification.

(Marked Defendants' Exhibit No. 98 for identification.)

[fol. 1896] Mr. Deegan: I ask to have marked for identification the sheet entitled "Statement to show Cost of Meters of Various Sizes, Also Fittings."

(Marked Defendants' Exhibit No. 99 for identification.)

Mr. Deegan: I ask to have marked for identification sheet entitled "Statement to Show Material Cost of Different Sizes of Mains and Fittings," consisting of five sheets.

(Marked Defendants' Exhibit No. 100 for identification.)

Mr. Deegan: I ask to have marked for identification sheet entitled "Statement Showing Cost of Pipe, Fittings," consisting of two sheets.

(Marked Defendants' Exhibit No. 101 for identification.)

Mr. Deegan: I ask that the sheet entitled "Account Holder No. 2" be marked for identification.

(Marked Defendants' Exhibit No. 102 for identification.)

Mr. Deegan: I ask to have marked for identification the sheet entitled "Account The American Meter Company," consisting of two sheets.

(Marked Defendants' Exhibit No. 103 for identification.)

Mr. Deegan: I ask that the sheet entitled "Statement Showing M Cubic Feet Gas Made and Certain Other Statistics," be marked for identification.

[fol. 1897] (Marked Defendants' Exhibit No. 104 for identification.)

Mr. Deegan: I ask to have marked for identification sheet entitled "Drains and Sewers and Light-ing Rods on Three Chimneys at Works."

(Marked Defendants' Exhibit No. 105 for identification.)

Mr. Deegan: I ask to have marked for identification sheet entitled "Benches and Chimneys."

(Marked Defendants' Exhibit No. 106 for identification.)

Mr. Deegan: I ask to have marked for identification sheet entitled "Account Smith & Sayre Manufacturing Company."

(Marked Defendants' Exhibit No. 107 for identification.)

Mr. Deegan: I ask to have marked for identification sheet entitled "St. James Place Works Shop and Stable."

(Marked Defendants' Exhibit No. 108 for identification.)

Mr. Deegan: I ask to have marked for identification sheet entitled "Account F. D. White."

(Marked Defendants' Exhibit No. 109 for identification.)

Mr. Deegan: I ask to have marked for identification the [fol. 1898] sheet entitled "Account Whittier Elevator Company."

(Marked Defendants' Exhibit No. 110 for identification.)

Mr. Deegan: I ask to have marked for identification sheet entitled "Account John H. Deeves & Brother."

(Marked Defendants' Exhibit No. 111 for identification.)

Mr. Deegan: I ask to have marked for identification the sheet entitled "Account Coal Shed."

(Marked Defendants' Exhibit No. 112 for identification.)

Mr. Deegan: I ask to have marked for identification the sheet entitled "Account Libby & Keese."

(Marked Defendants' Exhibit No. 113 for identification.)

Mr. Deegan: I ask that the sheet entitled "Account J. J. Van Riper" be marked for identification.

(Marked Defendants' Exhibit No. 114 for identification.)

Mr. Deegan: I ask to have marked for identification sheet entitled "Account Continental Iron Works."

(Marked Defendants' Exhibit 116 for identification.)

Mr. Deegan: I ask to have marked for identification sheet entitled "Account S. M. Randall."

(Marked Defendants' Exhibit No. 115 for identification.)

[fol. 1899] Mr. Deegan: I ask that the sheet entitled "Account Fred Bredel" be marked for identification.

(Marked Defendants' Exhibit No. 117 for identification.)

Mr. Deegan: I ask to have marked for identification sheet entitled "Account Jesse W. Starr & Son."

(Marked Defendants' Exhibit No. 118 for identification.)

Mr. Deegan: I ask to have marked for identification the sheet entitled "Account Henry Case."

(Marked Defendants' Exhibit No. 119 for identification.)

Mr. Deegan: I ask to have marked for identification sheet entitled "Account Davis & Farnum Manufacturing Company."

(Marked Defendants' Exhibit No. 120 for identification.)

Mr. Deegan: I ask to have marked for identification sheet entitled "T. F. Rowland, Contract No. 2."

(Marked Defendants' Exhibit No. 121 for identification.)

Mr. Deegan: I ask to have marked for identification sheet entitled "Tank & Holder."

(Marked Defendants' Exhibit No. 122 for identification.)

Mr. Deegan: I ask to have marked for identification sheet entitled "Account Holder No. 3."

(Marked Defendants' Exhibit No. 123 for identifica-
[fol. 1900] tion.)

Mr. Deegan: I ask to have marked for identification sheet entitled "Account Water-Gas Plant."

(Marked Defendants' Exhibit No. 124 for identification.)

Mr. Deegan: I ask that the sheet entitled "Carpenter Work" be marked for identification.

(Marked Defendants' Exhibit No. 125 for identification.)

Mr. Deegan: I ask that the sheet entitled "Masonry" be marked for identification.

(Marked Defendants' Exhibit No. 126 for identification.)

Mr. Deegan: I ask that the sheet entitled "Account J. H. Whittier, Special Contract," be marked for identification.

(Marked Defendants' Exhibit No. 127 for identification.)

Mr. Deegan: I ask to have marked for identification sheet entitled "Account T. F. Rowland."

(Marked Defendants' Exhibit No. 128 for identification.)

Mr. Deegan: I ask to have marked for identification sheet entitled "Analysis of Construction Account, Debit Side," consisting of six sheets.

(Marked Defendants' Exhibit No. 129 for identification.)

[fol. 1901] Mr. Deegan: I ask to have marked for identification sheet entitled "Analysis of Construction Account, Credit Side," consisting of three sheets.

(Marked Defendants' Exhibit No. 130 for identification.)

Mr. Deegan: I ask to have marked for identification sheet entitled "Memorandum Showing Authorization for Entering into Contracts for Four Condensors."

(Marked Defendants' Exhibit No. 131 for identification.)

MOUNT

Redirect:

By notation concerning withdrawals, I mean there are various credits in the account from the cash book. There are no entries marked as applying to retirements or anything of that nature. These credits are not withdrawals in my opinion.

[fol. 1902] ALTEN S. MILLER

Direct:

When I was last upon the stand in answer to the hypothetical question concerning cost I gave a figure of $24,438,680. I wish to substitute $23,976,790. The figure which I originally gave was due to an error in mathematical calculation, just in the addition of the index numbers, through an error the addition of the index number in order to average them amounted to 100 more than the correct figure. In other words the total addition from 1849 to 1895 is 5,172.2, which is to be divided by 47 to get the average. In making the original addition I had 5,272.2.

Since testifying, in this case, I have examined the testimony of the witness Mount, the minutes of the vendor companies in evidence, and the entries in their books of account in evidence, to which the attention of the court has been directed. I have not been able to determine completely the dates when the properties acquired by the plaintiff in 1895 concerning which I have testified were constructed by the vendors. I find when the construction of various plans and distribution systems was begun. I was not able to tell the nature or extent of the initial construction, only part as to subsequent extensions in any year. And that is true both [fol. 1903] of works and distribution system. It is not possible to determine from them the original cost of construction to the vendors of the properties acquired by the plaintiff on or about November 4th, 1895; nor *it is not* possible to formulate upon them as a basis an opinion of what the property acquired by the plaintiff on or about November 4th, 1895 ought to have cost on the basis of prices prevailing during the period when the various units were constructed. A relatively small portion in percentage of the

total cost can be obtained from such books and records. I cannot state about how much, certainly not above ten per cent. In my opinion as an engineer, such data would be comparatively small help in formulating an opinion of what the properties acquired by the plaintiff on or about November 4th, 1895 ought to have cost, on the basis of prices prevailing during the period when the various units were constructed because of the small amount of property which is indicated in detail with specific cost.

The individual units of course would be useful in checking the other data which I have of costs of apparatus or materials on similar dates. I do not find the cost of a number of units sufficient to enable me to estimate thereon the cost of those units as to which the books and records disclose no cost data. I have observed by way of comparison how this cost data, such as it is, in these books, compares with the index numbers that I have adopted in arriving [fol. 1904] at my opinion as to what this ought to have cost. In the case of cast iron pipe there are quite a few points by which I can test my cast iron pipe table, and I find that the index number of the cast iron pipe in 1895 as compared to the average index number is very much lower than the index number of average commodities in 1895 as compared to the index numbers of the average commodities during the period, the figure which I used. In other words, the cast iron pipe prices would indicate that I was over conservative.

Coming to gas meters, the tendency in some years would indicate that I had been overly conservative. In other words it would fall above the index number, and in other years it would fall below the index number, but there are so few prices of gas meters in the first twenty-five years of the companies when the prices were high, that it is not possible to make a complete check of the index number. Most of the prices of gas meters, almost all of them, are since 1875. There are only two prices of gas meters previous to 1873 that I was able to find, with the single exception perhaps of an inventory which does not indicate whether that was a real price or an inventory price. I mean it does not indicate whether the company paid these prices for the meters. There is an inventory price in the late 50's and early 60's, but the actual purchase prices in the early years

[fol. 1905] indicate that in using commodity index numbers I was too low. The twenty years from 1875 to 1895 indicate in some years that I am too low and in some years the commodity prices are high. I refer to meters just now. On pipe I am very low. In this last statement in reference to the twenty years from 1875 to 1895 I am talking about meters. I find a single building, that being the Williamsburgh Office Building which cost, after making due adjustment on the index number basis under my average index number, that building was $52,000. That building actually cost $83,000. In 1895 I got that building in at $39,000. There is very little else. There are quite a few gas holders. There is the record of the construction of quite a few gas holders which, from the information available to me, does not indicate that the record shows the complete cost of any of those holders. Taking what records of cost can be found, in some cases it indicates that the index number would give a lower figure than the holder actually costs and in other cases that the general commodity index number worked back would give a higher figure than the holder actually cost, but the records do not seem to indicate whether all other charges are against those holders or not.

There were peculiar methods. In some cases they let the tanks to one person and the guide framed to another and the holder itself to a third. Sometimes the company [fol. 1906] apparently bought the material and put in the tank with its own labor, and it is not clear, the records are very obscure.

Beyond those items there is practically nothing to indicate what the original cost was of such material as was actually taken over. I am very certain that in most cases if not in all cases, that the data in the books on holders does not show the complete cost. The books do not show what they paid for it completed. I don't think they kept the cost on some loose memorandum paper that I am unable to locate. It went into the expense of operation, being done by the regular force. I think it is clearly set forth in money in the books but under some different account from Construction as was the custom of the period. An examination of those books which I have made, and the testimony of Mr. Mount and the information which I get there, I think on the whole would indicate that the properties cost more

than I testified by reason of the changing condition down through the period and the very large proportion that cast iron pipe bears to the whole, and the larger costs of cast iron pipe in the earlier periods. The cost was so much higher in the earlier periods, I think that the probability is that the costs would have been higher rather than lower than the figure given by me as corrected this morning.

[fol. 1907] MILLER

Cross:

I first engaged in the gas business in 1888 with the United States Improvement Company at Philadelphia. They called me a cadet engineer, draftsman and designer. I made drawings and designs during four months in Philadelphia. Then I went to Omaha and immediately started in the construction of a holder, valve house connections and so forth. That was in the beginning of August, 1888.

Referring to the amount that I previously stated there was $24,438,680 and which I now correct and which I stated w-s due to an error in addition of the index numbers. I assume responsibility for the error. I made the addition myself, originally. I did not check it at all, originally. To the best of my recollection it was on the day or the day before I testified that I obtained the figure of one hundred and twelve odd as being the average index number for the period. I don't remember whether I asked Mr. Blanchfield or not but he added up the various index numbers and then divided to get the average for me. He did it and he handed me this material. Originally, I checked it up and found an error and corrected it. I do not think I checked it up and found an error until after my attention was called to the error. The error amounted to approximately $600,-
[fol. 1908] 000. I think it was on Tuesday of this week when I first made an examination of the books of the companies here for the purpose of ascertaining the items of property as to their cost. I went to work to advise myself of the contents of the books almost entirely by taking the notes and records in this case, the sheets that have been marked for identification to a very large extent and also the testimony, reading the testimony of Mr. Mount. I had these sheets before me and I ran through them to note the

various items of cost of particular properties. I think I had the Nassau before me too. I might, but I am not sure that I would recognize the sheets if I were shown them. I think they were entirely photostated. I am not sure that I would recognize the originals. I do not think these perusing papers were the ones. They were those wide sheets. I may have had these. I am not sure. My recollection is that these were included with a vast number of other papers. I think I had before me a photostatic copy of these. I am not sure though; I would not be sure. I do not recollect what I had before me in relation to the Nassau Company. I had a vast number of papers and testimony relating to all the companies which I tried to get through, and which I think I got through, relating to all the companies, being all the exhibits for identification in this case and the testimony of Mr. Mount. Our conferences took place in this room (indicating). And the books of the vendor companies were [fol. 1909] here. And whenever I considered it necessary those books were submitted to me. I could not say to what extent I examined the books themselves instead of the data. I looked at them from time to time, the books of account, where the data seemed to indicate that the item was complete, and yet which I could not expect to be from my knowledge of values, and I examined the books in some cases of that kind, where it looked as though the account was complete, I did not refer back to the books. I don't remember the instances. I have been trying to do a good deal in three or four days and I have had to do it right fast. The most expeditious way was to refer to the data here compiled instead of going through the various books. The first thing that I testified to was that I availed myself of all of this material. I think each year there was some data as to the feet of the mains, but not the cost. I don't know that the books of the Metropolitan Company state at the end of every year the number of feet of main and the size of main laid throughout the year. I think it did some years. It did in some years. I had reference to books No. 61, the monthly statement of the Metropolitan Company. And there I found not the cost of any, but I saw a statement of mains laid. I think it gave sizes. I think it was so from 1872 to 1879 and from 1889 to 1894, inclusive, the gap between 1879 and 1880, or from 1880 to 1888, in-

[fol. 1910] clusive when there were no books. Previous to 1873, I had completed data before me, only two years in the Brooklyn Company, with the exception of some inventories in the Williamsburgh Company, covering several years. I do not think I had any information as to the number of meters on the district of the various gas companies taken over by the Brooklyn Union Company on November 4, 1895. I do not think I had the number of meters in the possession of any company at that time. I had the total number of meters of the Brooklyn Company, but I do not think that I had that subdivided any where between the vendor companies. Nothing that I saw showed the number of meters of the Brooklyn Company, I mean the number of meters in use by some of the companies. I do not say they do not, but I did not see any such statement. I did not look through the book carefully for that. I was not interested particularly, because I knew what was taken over. It is rather hard to say how carefully I looked through; I did it as well as I could with the time at my disposal. I would not like to say that I looked through them with enormous care, because I should like to have a few months to do that; but I did the best I could with the time at my disposal, and I think I have got the salient points.

I do not recollect seeing in my examination of the books in the case of the Citizens Gas Company, for instance, data showing the number of meters in use for *for* a period of [fol. 1911] years up till September 30, 1895, both in use by the citizens and by what they called the "Branch," being the old Union. I was looking for costs and not for inventories. I was looking for costs,—and if there were no costs—I may have seen it without paying any attention to the inventory.

I noticed in my examination that the Williamsburgh Company made an inventory at various times of the number of meters that they had, an appraisal apparently. I did not notice that in the case of the People's Gas Light Company, there was data in the books showing the meters out on the district and the number that was set, meters removed and so forth. I was looking for costs, not for inventory. I might have seen it, but I would not notice it. I would not notice any inventory unless there were prices at-

tached and I did not notice that in the Nassau Company it gave the number of services on the district at the end of each year, and also the whole number of open accounts on December 31st, of each year, presumably the consumers' accounts.

In reference to the figure which I gave $23,976,790, about one sixths of its overheads, as to how much of that applies to manufacturing plants and how much to distribution systems, taking mains separately, services separately and meters separately, I will just apply the same percentage to each item that I applied to the total in order to get the item brought up to date. It is purely a question of computation. [fol. 1912] I have not computed it. My computation was based on the whole, and not on the units. It is purely a computation. I can make a computation. Multiply each of the units by 110.05 and divide it by 82.6. The units I have are units that I gave making up the $17,996,212. None of the overheads include anything for going concern value or for franchises. In the 50's and 60's it was the usual method for manufacturing gas—coal gas. The method of making gas that these various companies used prior to 1870 was probably coal gas. There was not a generally accepted type in years gone by for a retort house as far as I know. Never in my observation was it the custom to build a retort house of practically a uniform character and construction. Engineers have varied ever since I have observed their work, and I think they did in the old coal gas plants. I know of a very un-uniform character of construction for retort houses in the early days of the coal gas manufacture. I have seen various types of coal gas plants built in the 60's or thereabout in Baltimore, in New York and in Omaha. In saying that, I mean in some cases, I have seen the remodeled buildings in which the plants were, and in some cases the plants were still in existence. I have seen the original retort houses constructed in 1860. I have seen a retort house that was constructed in 1850 and the benches therein in Baltimore. The building was a [fol. 1913] stone building with wrought iron roof, covered with slate. I do not know that it was generally customary to construct them of stone or brick, as between the two. I take it it is like conditions are now. Construction varies with different places, and different people. There is noth-

ing hard and fast about it. In New York they were generally constructed of brick. In Baltimore the retort house was constructed of stone. In New York the retort houses were brick. In Brooklyn the retort houses were brick. The old retort houses were brick in Brooklyn. In 1850 the retorts were usually iron. At eighty some date—I do not know the exact date—they were changed to clay. The settings were red brick and fire brick. The mouthpieces, hydraulic mains and so forth, were usually cast iron. I do not know what date they changed to clay retorts, but in 1870 and 1850 both, the fittings were iron and the general settings were a general combination of red brick and fire brick. There was some difference in the method of setting the retorts from 1850, say to 1870. In 1850 and in 1870 they set them in benches and fired them with coke. They did it both in 1850 and in 1870 and they do now set them in benches and fire them with coke. As to the arrangement of the retorts in the bench, there have been various differences at all times. There are differences now, and that is a question of the individual engineer. One engineer [fol. 1914] may have had some idea of arranging retorts, one over the other. Others may have had the idea of scattering them; not having them one over another. Nothing specific as between 1850 and 1870, except somewhere between there, I think the difference changed from iron to clay retorts. But there was no change as to a time insofar as I was able to observe, my knowledge goes in the settings themselves. So far as I recollect, gradually during the ages the regenerative or recuperative bench was built up. I do not remember when they first started their recuperative bench, but that was gradually built up at some period of retort construction. There is nothing in the world to indicate whether there were any recuperative benches attached to their retorts. I have no opinion, nothing to indicate whether there were any recuperators or not. The record does not show. That is one of the many things it fails to show. I have assumed none. I made no assumption of the subject whatsoever. My costs would not vary enough to find it in total, depending on whether they had any regenerators or not. It would not make any material difference. It might make a difference in the original cost if the retort house were constructed of stone instead of

brick. I don't know whether it would be cheaper or more expensive here. It might be cheaper and it might be more expensive. It is purely academic. It has nothing to do [fol. 1915] with the case. It might make a very great difference, but it was not constructed of stone, and I have not looked into the costs of stone construction in Brooklyn as of 1895. There are no stone buildings, and I have only studied what is before me. The records show almost nothing as to prices of brick during that period 1850 to 1870. It does show purchases, but so few as to be almost negligible. I was basing my answer on what I found in the books. I cannot remember anything upon the subject; I had them all before me, but I cannot remember them in detail. (After referring to books:) The price of common brick varied from a maximum of $16.50; in 1869 to a minimum of $3.75 in 1850.

I have read what I have found in Volume III of the Senate Reports, 1892-1893, Aldrich Report.

I think there was one purchase of brick—or one authorization for the purchase of brick in the minutes of one of these companies; they were authorized to purchase brick at a price not to exceed, I think it said, $3.50. I do not remember just where it was. I have no personal knowledge of the price of brick in this period. From 1850 down to 1870, I have no personal knowledge of the price of brick here in New York City or Brooklyn, nor anywhere else. Available information in respect to the price of brick during that period is gained from the Aldrich Committee report.

In determining my opinion as to what these properties [fol. 1916] ought to have cost, to assist me in arriving at my conclusion with reference to prices, I had my knowledge of construction in and around New York in 1894 and 1895 and in other places a few years previous to that, and then I had the Aldrich Committee report of the Bureau of Labor Statistics. Beginning with 1850 it did not rise gradually in price until a certain period. It see-sawed up and down various years, some years up and some years down until we got into the 60's. In 1850 it varied from $3.75 to $5.25. It varied from $4.25 to $5 in 1860, from $7.50 to $9.25 in 1870, from $5.50 to $8.25 in 1880, and from $5.75 to $7.25 in 1890. This does not give 1896. The last period stated here is October, 1891. On January 1st, 1896,

to the best of my recollection brick was about $4. For January 1st, 1914, I think, to the best of my recollection, it was about $6.50. From 1850 down to 1914 the information I had upon that subject was the Aldrich Committee report. I relied upon the Aldrich Committee report for the wages of bricklayers. From 1850 down to 1894 I had no knowledge of bricklayer's wages. Subsequent to 1894 I do have somewhere such information. I do not have it with me. I made no detailed estimate of this plant. I made an estimate based upon my experience of the cost of such plant, but I did not attempt to make a detailed estimate. The best of my recollection is that they were about (the wages [fol. 1917] of bricklayers in 1896 and again in 1914, January 1st) $4.60 or $4.80 in 1896 and in 1914 I think they were $6.00; but I am not quite sure of that. I did not utilize it here in any way. My best recollection is that a bricklayer got $4.60 for an 8-hour day in 1896. I do not have it in 1896; I referred to some of my notes then. From the source of actual payments some of these companies paid bricklayers $6.00 for an 8-hour day in 1914. The Brooklyn Companies did. I don't know whether that is shown by the books. I got the information from some of the Bartlett-Hayward notes predicated on some of our estimates. I do not know the source of it personally, except that I got it from my estimating department; that is, the particular note. I made a lot of appraisals as of that date, and if I were satisfied that they did not agree with the prices that were being paid, I would have checked it, because I used the costs of that date. I tried to cross check all of my figures, and I was in conference with a number of contractors in 1914, to get prices for appraisal work.

The testimony of the case showed the capacity of the holders, the capacity of the plant, the size and length or the length of each size of main, the number of meters, the number of services, and the offices and store rooms. This is in the detail of that item of $17,996,212. I am still relying on the general commodity index in the formation of my [fol. 1918] opinion. I have in effect, valued the property as of 1896, reproduction value, and then applied the average index figure for general commodities prevailing from 1850 to 1896. That is how I got the figure of $23,976,790. What constitutes a normal day's work by a bricklayer in the num-

ber of bricks laid in 1896 depends upon where they are being laid. In the construction of a retort house, as to how much brick an average bricklayer would lay in a day depends upon what part of the house it is. It depends upon the various parts of the house. I don't know how large a retort house would be necessary to construct to accommodate seven benches of 6's. It depends upon the size of the benches. There is not a rather uniform size of bench for 6 retorts as far as I know. A bench containing 6 retorts is constructed in various ways; as I said before they may be staggered or they may be one over another. I don't know when these were constructed. The general practice from 1880 down to 1896 in constructing benches of 6's varied. Sometimes there might be a direct fire half the depth or the full depth of the benches, and the retorts varied in size; so there would be no exact method followed until you designed your benches and decided what you were going to put in. In this case, the company's benches were largely for oil, not coal. They were largely oil benches. They had some coal benches; but they were largly oil benches. In my calculation, I took [fol. 1919] into consideration the kind of benches the company had when it was taken over. The complete gas plant was called for in the question asked, the complete cost of the plant. In the cost of this plant included every thing that went to make up the entire gas plant. I considered sufficient benches in conjunction with the other apparatus to make up the capacity specified. I assumed no particular number of benches that would be necessary in order to make that capacity. The number of benches necessary to make the gas depends on the kind of gas you are making. They made a variety of gas, and some of it is not on benches at all. When they were constructed, I had some knowledge of what properties they acquired in capacity, and I did have some knowledge of the property. I think I have already testified to that.

In 1895 they had in the Brooklyn Works 32 benches of 6's, six benches of 9's, and 4 benches of 9's. In the Citizens Works they had 3 benches of 6's. In the Fulton Works they had 13 benches of 6's. At the Metropolitan there were 7 benches of 6's, at the Nassau 24 benches of 6's and 14 benches of 9's. I don't remember at the moment whether they were through retorts. I will look it up. And the

Union had 1 bench of 4's, and 2 benches of 2's. The Williamsburgh had 24 benches of 5's and 53 oil retorts. Those, I think, were all the benches and retorts that they had at that time. Some of the retorts were through and some of [fol. 1920] them were stop-ends. In the Brooklyn Works the 32 benches of 6's and the 6 benches of 9's were stop-ends. The 4 benches of 9's, I think, were through, I am not sure. At the Citizens, 3 benches of 6's were through retorts. At the Fulton they were through retorts, the Metropolitan were through retorts, the Nassau 24 benches of 6's and 14 benches of 9's that were stop-end retorts, and 5 benches of 6's were through retorts. The Union were through retorts, the Williamsburgh, 24 benches of 5's were stop-ends, and the 53 oil retorts, I am not quite sure whether those were stop end or through, probably through.

In the Brooklyn Works they had four generators. In the Citizens Works the four generators had a capacity of 700,000 cubic feet each per day. The Citizens had two generators. The capacity of the generators at the Citizens was something over 1,000,000 feet. None of those figures were given exactly. They are computations, being made by me as I go along. I make the computation from the capacity of the plant. At the Metropolitan Works there were two generators, having a capacity each of something over a million a day. At the Nassau Works there were four generators, having a capacity of something like 700,000 a day each. At the Union they had two generators, having a capacity of about 400,000 a day each. The Williamsburgh had eight generators that had a capacity of about 700,000 each a day.

[fol. 1921] They made blue gas in the generators, but they did not mix it with oil-gas in the retorts. They mixed it with the oil-gas that was made in the retorts. You do not need to know the capacity separately in order to arrive at your conclusion as to your value. You have the total capacity and then you have it divided as between the two different kinds of gas.

The Brooklyn Works coal-gas capacity was 1,885,000 cubic feet per day and the water-gas capacity was 3,600,000 per day. At the Citizens Works they had a capacity of 2,000,000 cubic feet per day of water-gas. At the Fulton Works, the capacity was 5,000,000 cubic feet per day of

water-gas. And when I do not mention coal-gas, I mean that there was no equipment for making coal gas. At the Metropolitan Works the capacity was 2,000,000 cubic feet per day of water-gas. At the Nassau Works the capacity was 2,500,000 cubic feet of coal-gas and 2,500,000 cubic feet of water-gas. That was the Wilkinson process. The Union had a capacity of 500,000 cubic feet of water-gas. The Williamsburgh had a capacity of 5,500,000 cubic feet of water-gas and 800,000 cubic feet of coal-gas. I would like to add that my testimony was based on the capacity given in Mr. Bush's evidence. I am not sure that the figures I have just given you agree to the last unit with Mr. Bush's evidence, but my estimate is based on the evidence in the case, and this may or may not check. On Jan- [fol. 1922] uary 1st, 1896 there is nothing to indicate so far as I can find out that the company had a charging or discharging machine for the retorts—they had to have in the way of buildings.

Included in my estimate, taking, first, the Williamsburgh plant, they had to have a gas generator house, retort house or houses, exhauster house, condensor house and scrubber house, and such houses as are usually around a plant for shops, blacksmith shop, carpenter shop, store houses—that is, the plant itself. That would not be true of all of the plants; some of them did not have generator houses. That is, those plants which had coal gas plants entirely would have a retort house alone, and those plants which had the combination would have a generator house and a retort house. They might be under the same roof—if they had space for them.

I made no assumption as to how the mains were installed throughout the period from 1850 to 1896. I took an average of installation costs from the beginning of installation to 1896. I took a fair price from the beginning of installation down. Cast iron pipe varied from at least $58 a ton. I don't know how much higher because my figures are in five year periods, but at least $58 on the Delaware River Foundries, to which has to be added freight to New York. In 1865 it was $58. I found no purchases, no data in the books. As to the purchase of pipe in 1865, there are a very few records of the purchase of pipe in the books any- [fol. 1923] where. I found the highest amount in the books

was in 1859, $42; but there are only a few places where there is any mention of the purchase price of pipe. The price of cast iron pipe, 6 inch and larger was $23 f. o. b. Brooklyn. That is what this company bought it at as I recollect it. That is my recollection as to what this company bought it for. In 1895, as to six inch pipe and larger, I have not a memorandum as to whether there were purchases ranging from $19.91 to $23. That may be correct; if that is in evidence, I would be very glad to see it. That price is what I have, that $23. The Williamsburgh Company bought some six inch pipe at $20.30, and eight inch pipe at $22. Here is some 10 inch pipe at $19.91, back in an earlier year, though, I think, in August 1895. If pipe six inch and larger were $23 a ton then, the cost of laying a mile of pipe would depend a good deal on the size. It would cost about $6,336 to construct a mile of six inch pipe. I cannot tell offhand how much it would be for the total material. I just recollect what pipes cost per foot as of that date, laid. I could not tell you exactly how it is made up. I cannot tell how much it would cost per yard to excavate. To the best of my recollection about 15 cents is what common laborers were getting per hour at that time. To my recollection caulkers and yarners were getting about 25 cents. It is a long time ago, but that is my recollection. My estimate as to the cost of laying 4 inch pipe per mile at [fol. 1924] that time is $4,224, that is in 1895. That includes about one-sixths overheads, all overheads other than financing and organization prior to construction, nothing for those. In my examination of the books I did not take into consideration, the fact that in the Nassau books at the time they purchased, or about the time they purchased, a district from the Brooklyn Gas Light Company, they made certain entries as to the property taken over. There is no indication as to what that property cost on those entries. My recollection is that I did look at the books of the Brooklyn Gas Light Company, but there is no indication as to what it actually cost. It is somebody's estimate of value. When I looked at the books of the Citizens Gas Company where the transaction was entered, merging apparently the Citizens Gas Light Company and the Union Gas Light Company, I did see certain figures set forth for certain mains, the number of feet of mains and the size of mains. That

was about 1892 or 1893. That does not show cost. It is somebody's estimate of value. It is not cost on its face. I did not take into consideration the closing ledger balances of the various companies, covering the street mains, for instance, the Peoples Company and the Metropolitan and the Citizens. As of November 4th, 1895, there is nothing there to show the cost of mains. I was looking for cost; I was not just wandering over to no purpose. I have been care- [fol. 1925] fully looking for costs, and I have not taken very much into consideration that did not show costs. I cannot say that I did notice that the ledger balances on street mains for the Peoples Gas Light Company amounted to $217,264.30. I may have seen it, if that is correct, but I did not pay any particular attention to it. I did not pay any attention to the street mains accounts as shown by the ledger balances in any of the companies except where they represented cost. The mere ledger balance did not represent cost. The balances carried in the various street main accounts, by the number of mains, the number of feet of mains, that that company had would not check any valuation. I did not do it. I have testified that I did not have the sizes of mains of these various companies or the material to do it with so of course I could not check it. Then I did not take into consideration the record in this case in so far as it gave me no information about the cost of these properties. I have not seen the feet of mains taken over from the individual companies. All I know is the total number of mains. The total number of feet of mains I got from the auditor of the company. He did not give me the number of feet of mains owned by the companies taken over. I was not interested in it.

Regarding the paving over mains, as to whether it was necessary to cut it or not, I made the assumption that it was necessary to cut some of it, or that some paving had [fol. 1926] been cut when some of the mains were laid, and that some had not been cut when they were laid. I cannot tell about the proportion which I assumed. It did not cost very much to cut the paving as of that date. Brooklyn was paved very largely of cobblestones and the cost of cutting pavement was not very great.

As regards the companies being obliged to pay for street lamps or the services leading to them, I have included no

street lamp services in my estimates. I made no assumption regarding any pavement by the consumers for the installation of services of the various companies. As to whether they paid for it or whether they did not, I don't know whether the consumers paid for the services or not. But in fact it would not have effected my valuation of the property in the streets as to whether—as to now it had been put in. The company owned the property in the street. I valued the property in the street and it did not make any difference who paid for it. I valued the services as they ran into the houses, just the connection through the wall. The average price I have included for services is the services in the street with the connection through the wall. I did not necessarily assume the average price for the service running from the main through to the house wall. Some houses may be two hundred or three hunderd feet back, and I just assumed a service of 33 or 34. That average service would take it through the foundation wall. With respect [fol. 1927] to the holders, my overhead is one sixth, applied to that figure too.

As to the fluctuation in tank sheets over a period of years from 1850 on, the maximum would be nearly six times the price in 1895. The maximum was in 1878. The minimum was about three per cent below 1895, and there is only one year below 1895. The price that I am giving is iron bars. I do not have those tank sheets, but the tank sheets vary with iron bars. There is a relation always between bars and sheets. The date of the maximum was 1864. The bars were 6.7 cents a pound as against 1.16 cents in 1895. The price of the sheets varies with the price of the bars, probably from a half a cent to a cent difference, a sheet above the bar, that is, the light holder sheets—from a half a cent to a cent above the bar.

Going back to 1849, the boiler makers, which is the type of mechanic we used on the construction, $1.30 a day. That was increased up in the 50's from $1.25 to $1.75, varying with the skill of the individuals, or rather the minimum was $1.12½ to $1.75. That was, taking 1856 that ran from $1.25 to $1.87½. Then there was some drop along in the 60's, running from $1.18½ in 1861 for instance, to $1.75. Taking averages, I see there is an average here—that aver-

age was $1.60, average of the workers in this particular plant. Coming up to January 1865, it averaged $2.09, and ran along in 1866, when it dropped to $1.80. Going over [fol. 1928] to 1871, it increased slightly from year to year; 1871 was $2.15½ and then in 1879 it had dropped to $1.74½. In January, 1883 it was $2.01; in January, 1888 it was $2.18; some little sawing up and down between the two; and in July, 1891, which is later shown here, it is $2.18½. That does not go as far as 1896; this report stops in 1891. I am referring to the Aldrich report. That would be about the cost of labor of the men engaged in erecting a holder, that is, the more experienced laborers, not the common laborers. These skilled men, the common laborers would probably be from a dollar in the early part of the period up to $1.50 in the later part, varying up and down meanwhile about with the boiler makers.

In my examination, my attention was not directed to the resolution of January 23, 1889 where it is referred to the explosion of three holders of the Citizens' Gas Light Company. It did not disclose that. My attention was not directed to any minutes recording the explosion of three holders in 1889. I do not know when the company withdrew the holders. I do not know when the company withdrew the holders; I know that one of them taken over is not being used, and I was under the impression that it had been withdrawn. I think it was a Union Holder. I do not remember the location. I do not remember whether it was a holder of 1,000 cubic — capacity. I do not recollect the price at which it was withdrawn. I did not see that entry. [fol. 1929] In the early history of gas making, the meters were first wet meters; and they were gradually withdrawn from service, afte. the dry meter came into use. I do not recollect about what time the dry meter was first introduced before I got into the business. I have had that information. I have known the history of the dry meter; in fact, I have seen the first dry meter ever made. But it is within my recollection, I believe. My attention had been called to it as a youngster. In other words, it is probably in the 50's or 60's when the dry meter was first made. The dry meter was first made in the 60's, I think. The record does not show the cost price of the wet meters from the period

of 1850 down to the time of the introduction of a dry meter; but I am of the impression that meters referred to in the purchases by the different companies in the early 50's, were wet meters. That is not clear on the record, but I am under the impression that they were wet meters. Any record of meters prior to 1865, I would say somewhere around there, probably would be wet meters. My impression is it was slowly turned over, changing from wet to dry. I think there were some entries of that kind where they purchased dry meters, and turned in the wet meters for a certain part of the purchase price, that is, exchanged them. In 1895, at the time of the purchase of the vendors' property, there might have been a few wet meters left in use by the vendor companies. There is a probability, I should say, that there [fol. 1930] was a large majority of dry, if not all. The wet meter didn't necessarily freeze. I see a memorandum for whiskey bought to keep them from freezing, in the records. They put alcohol in them, just as you do in the radiator of an automobile. It keeps them from freezing. But you had to do it. You use them nowadays. Denatured alcohol would work as well in a meter as in a radiator.

The Williamsburgh Company had a record of purchases in 1875 of dry meters; then there is no record for two years, and then almost every year thereafter, that is, from 1878 to 1895 inclusive, a purchase of meters. A purchase in 1875; then none in 1876 and 1877 and then from 1878 to 1895 inclusive. Referring to the entry of 1861, relating to 3-light meters appearing on folio 262 of the journal of the Brooklyn Gas Light Company, I took that into consideration; that is a wet meter or a dry meter. I saw that entry. That is a purchase in England, to that has got to be added duty and freight. That purchase was from an English concern, Thomas Glover. There is nothing in the book that says anything about England. That is just my knowledge of the meter and the concern that made them. In the safe record, is a purchase of April 30th, 1862, of two-light dry meters at $7.50, and 3-light dry meters at $8.50, from Thomas Glover. I took that into consideration and also an entry of August 5, 1862, in the same book, 368 3-light dry, $8, $2,944; allowed for weight $1.25, $460; difference $2,484; with like entries relating to 5-light dry meters and 10-light [fol. 1931] dry meters and 45-light dry meters in each in-

stance a sum being allowed for wet meters, appearing on folio 317. I saw that. That indicated in my mind that in 1862 the process of exchanging the dry meters for the wet meters was then going on. I do not know that I can say when I saw that entry. Certainly within the last two or three days. I did not go into this question until three or four days ago—until last Tuesday. I would not be absolutely positive I saw that particular one. The price checks up with my recollection of the prices.

I don't know how the cost of meter cocks and connections prevailing over the period, say from 1862 varied; I do not even know that they used them during all that period. I do not know when they first came into general use before I got into the gas business. They were in general use in 1888, when I went into business, but I do not know how long before that they had come into general use. By a meter and cock connection, I understand it is the cock and the connection to the meter between the service and the riser, stopping at the end of the service, and the connection running from that point up to the beginning of the riser. A piece of pipe, a shorter arm, maybe anywhere from nothing to five, six, or seven feet, and then, as of those days, there was usually a brass solder nipple in a piece of wrought iron pipe. The other end of it had a meter coupling soldered in. The outlet had a meter coupling, a piece of lead pipe, a [fol. 1932] solder nipple and two or three fittings, usually, and a small amount of pipe connecting to the house riser, the cock, being on the inlet side, and the solder nipple, by the way, being generally attached to the cock or to the pinion which screwed to the cock. The cost of setting a 5-light meter, labor and material was about $2.17, exclusive of the cost of the meter.

I do not know how long and during what period that price of $2.17 applied. It would not vary much for two or three years—along there. Going back to say 1862, when dry meters seemed to be coming into use, it probably would be more then. Materials were very much higher then. Labor was somewhat less, but I think the net effect would be to increase the cost. In estimating my cost, I assumed nothing, regarding whether the cost of setting the meter was charged to the consumer of the company, or whether the company originally paid for it. I don't know what the fact

was about it. There are some records in some places of one or two of the companies here, I believe, but I did not use those in reference to the number of meters in use by the various companies from 1862 down. They are not sufficiently complete to give the whole picture then for my purposes. The total number of meters set and the total number on hand on November 4th, 1895, I had the total set too. I had that information December 31, 1895. It is practically the same thing. The number of meters set was [fol. 1933] 108,433. There were 5,280 meters either locked or in the shop. I did not have any information, dividing up the number of meters that were set, among the several companies. In arriving at my figure, I made no assumption, regarding the life of a meter. I have no idea as to whether the first dry meters, purchased along about 1862 by the Brooklyn Union Company were there in 1895. The cost of pipe that I used was the cost of pipe in 1895. I have made no specific detailed estimate of any of these parts, as I have explained. I know about what an average service cost in 1895. I did not make any sub division of that as between pipe, digging, tapping, fittings, foreman, and so forth. I just took the price of the job as a whole. Knowing the total amount, I am not able to judge of the other items. I could not sub-divide it in detail from the total. I cannot say that I could offhand tell how much was material and how much was labor. I thought I had a memorandum of how much was wrought iron pipe selling for in 1895. I do not seem to find it. It is some of these purchases about that time, but I do not remember the price. For digging trenches in 1895, common labor was getting about 15 cents an hour, to the best of my recollection.

I would say just such as would be necessary to take care of the capacity given of those plants. It would consist of blowers, elevators, wheelbarrows, fire cleaning tools—shovels and so forth; it would include then, the scrubbers, [fol. 1934] condensors, and exhausters, purifier boxes, station meters, the engines,—pumps and the blacksmith tools and sundry tools of all kinds. I could state the capacity of the purifiers and of the boilers and of the other equipment in the course of time; but I could not sit down here on the witness stand and design the complete plant. It would take quite some time and study to do that. I assumed a

balanced plant and my prices are based on a balanced plant, and that is the basis of a unit of a balanced plant—the prices I have used. I have told the capacity; the capacity would be for the plant. The capacity of the purifier is the capacity of the plants given. I could work up for you a design of a plant to manufacture that amount of gas. It might or might not be what they had. As to about how many condensors and scrubbers they would need in the Williamsburgh Plant, it would depend entirely on the size of the units. If the condensors were 1,000 tubes each and you needed four condensers there, if there were 2,000 tubes each you would need only two, and there isn't any fixed rule as to size of condensers. That is the reason why I say that it is utterly impossible to offhand build up a picture, which after all, would be nothing but a picture. You would have to decide on the size of the units, then the number, and you would have to start by taking, for instance, condensers. I would start by taking four square feet of tubing for each 1,000 feet of gas, then work back to the [fol. 1935] total number of square feet of tubes, then reduce that to tubes 18 feet long, or 12 feet long, as the case might be, and then reduce that back to condensers. It is a long, slow process.

My testimony was based on Mr. Bush's testimony of the capacity of those plants and the equipment that would be necessary to produce that capacity in gas. I then assumed that the normal equipment was present. And presumably, if that equipment had been present, the gas could have been made in the quantities I have testified. I saw these plants as of about that date, but I could not begin to specify what was in them. I could not begin to do it. I have very little recollection. I did not have access to an inventory taken at that time. Though I remember going through these plants, I have very little recollection of more than the most general picture, and I have based my estimate entirely on Mr. Bush's testimony as to what was there at that time. I assumed that in making his estimate that there was a balanced plant there; and in order to have a balanced plant, in my opinion, there must have been there, this, that and the other. I made no assumption as to the size of any of that equipment, auxiliary equipment, such as: scrubbers, exhausters, purifiers, and so forth. I made

no detailed assumption of the size of the units. They had to have a number of small units or a few big units or enough to take care of the gas manufacture. In those days, I do [fol. 1936] not think they used lime for purification purposes instead of oxide, in Brooklyn. They did in a few places, but very few. They abandoned lime and adopted oxide generally in the early 90's. Some of the companies kept it until the late 90's. I abandoned them in the late 80's. The size of purifier house and the purification apparatus that would be necessary to purify gas that would be made in such a plant as the Williamsburgh plant, taking into consideration its daily capacity is about a square foot of purification surface for each 2,000 feet of gas. Those purifying houses of that time were constructed generally of brick, with sometimes a wood and sometimes an iron roof covered with slate. It was arranged inside—by purifiers in the house carried on iron beams.

I cannot say offhand how much it would cost to construct a brick purifier in 1896 or 1895 in order to house the purification apparatus that was necessary in a plant of the size of the Williamsburgh. I could not give offhand any idea of the size of a purification house. I made no estimate of the size specifically nor what ordinarily would be required for that capacity plant. I can comput it. As to how many condensers it would be necessary to have would depend entirely on the size. As to what the necessary capacity of all the condensers, you would have about four square feet of condensing surface for each thousand feet of gas. And it would not matter whether it was made [fol. 1937] in one large condenser or whether it was cut up into ten or fifteen condensers, except for convenience of operation and first cost. I never knew that condensers were usually made in some standard sizes. Each one does not necessarily vary in accordance with the capacity of the plant. You may have several in one plant. There is no uniformity. The nearest approach to uniformity is our design of a 2,000 tube condenser. That is the nearest uniformity that I know of. It is made in sections, and we connect it up to a thousand tubes or eight hundred tubes or four hundred tubes, after we do it. All the plant is sold as a machine, sold on specifications from the buyer. If you specify what capacity you want, somebody will sell you

the condenser that will take care of that capacity. Bartlett-Hayward & Comapny would have done it. You don't buy it like you do a needle of a certain number, or a hat of a certain size. Yes, you could buy it about like a hat, of a certain size, go into a store and ask for a hat of a certain size, but you have to specify what kind of a hat you want, straw, derby, silk, something like that. You may want 12,000 or you may want 18,000. I have put in a condenser with 36,000 tubes. I have put them in with 20,000 tubes. I have put them in with 12,000 tubes. I have put in square condensers; I have put in oblong condensers. They fit like hats; they fit the works just the same way. The old condensers were made practically of cast iron pipe, cooled by [fol. 1938] the gas going through the cast iron pipe. That is another condenser that was used to some extent in the very early days of the gas business. That is the air condenser. In answering the questions a while ago, I was refering to water condensers, but they had air condensers too. I made no specific assumption as to whether this company in 1896 had air condensers. I believe, as a matter of fact, they did have some, but I made no specific assumption. Of course they are more expensive than water condensers.

Scrubbers can be purchased as you purchase a hat. You tell them you want a scrubber of a certain size and you will get it. I don't know of anyone that carries them in stock. They are always built after the order is placed, and that is true of condensers too.

As a rule a certain stock of pump is carried. You sometimes can't get the pump you want in stock, and you have to wait for it to be made; but they are generally put through the shop in groups and carried in stock. Almost any size of pump you get in a gas plant would be a stock pump.

A good many companies utilized the Mackenzie exhauster in those days. I don't remember the prices of those.

They had to have an ammonia scrubber for water gas. The condenser is the same kind of condenser. They could utilize the same kind of condenser for water as for coal, but not the scrubber. They utilized the same purification [fol. 1939] apparatus for coal as for water. I can't give any definite information as to the number of engines or blowers

or scrubbers or condensers that any one of these companies would be apt to require. It would depend upon the design of the plant and the size of the units. The Williamsburgh works would have needed about 1200 horse power boilers. It is predicted upon the plant capacity, as every other part is. I could get the number of horse power, assuming I know the plant capacity. As a plant of this design would require a little less than 2 horse power per 1000 feet of daily capacity, you couldn't apply that same figure to the other plants. The other plants were of varying designs. That is the Williamsburgh plant. That has a very small amount of coal gas, almost all water gas. Approximately, you could apply about 2 horse power per 1000 feet of water gas capacity, and about one-tenth horse power per thousand feet of coal gas capacity, as of that period. I don't have my estimates with me to show how much a Greenfield engine, 10 by 10, would cost in 1896; I couldn't tell offhand.

I cannot tell offhand the cost of seven benches of sixes. The cost of a bench depends a good deal upon the bench. Take a through bench, a coal gas bench, a half depth, full depth or direct fire. As to the cost of a retort, direct fire, 20 foot through, to the best of my recollection, those benches cost $8,000. That is merely based on recollection. The twenty foot retorts cost about $50; the half longth, $25; [fol. 1940] half of $50, $25. In the early days they had a good many tanks in the yard of the Gas Company for various purposes, in early and later days too. And in the later days, some of them were made of brick, some of wood, and some of wrought iron. The cost of a wrought iron tank 8 by 25 in 1896 depends entirely on its weight. I can't give that until I have the weight. The weight controls the price. One 8 by 25 weighing about 8,500 pounds would cost in 1895 $250 or $275. That, by the way, assumes it is only a quarter of an inch thick. If it were thicker, it would cost more.

It is not, as far as I know, very difficult to tell the actual cost of a holder. It does not depend to a large extent on how busy the contractors are at the time the contract is let. They would go broke if they took work at a loss, in order to maintain their organization; some of them have gone broke. R. D. Wood & Company, for instance. Prob-

ably they did that. It has not been customary with us, and we are still doing business. I don't mean that that was the reason R. D. Wood & Company went broke; that may have been in the reason. I don't recollect that I testified to that in answer to a question put to me in the New York and Richmond case. I don't recollect in that case that I stated R. D. Wood & Company took work at a loss to maintain their organization.

This morning when I was being questioned, I had in my hand, which I referred to, some memorandum, stating the capacity of the plants. I objected to counsel looking over [fol. 1941] my shoulder. That information came from the engineers of the Brooklyn Gas Company, from some of the old superintendents who were at these works at the time they came into the Brooklyn Union system. I mean men in the employ of the Brooklyn Union Gas Company at the time that company acquired the property from the vendors, on say, January 1st, 1896. Five men were there that I interviewed for the purpose of informing myself upon this subject. I personally interviewed them for the purpose of ascertaining so far as I could as to the capacity of the plants, and what the class of generating apparatus was on January 1st, 1896. I personally interviewed Mr. McIntire and Mr. Welsh, Mr. McIntire, regarding the old Brooklyn Works; Mr. Welsh, regarding the Citizens; Mr. Byrne, regarding the Fulton; Mr. Benson, regarding the Nassau; Mr. Byrne again, regarding the Union; and Mr. Cross, regarding the Williamsburgh. This memorandum was prepared at my request by the engineers of the company who were present. I asked them if they would have the notes taken during the interviews. These notes were taken during the interviews, and they prepared them. I had the interviews on the fourth floor of the office of the plaintiff company at 176 Remsen Street. I don't know whether these gentlemen had charge of the manufacturing plants. Of course, Mr. Gross was in charge. Mr. Benson was not in charge at the time. His father was in charge. I think Mr. Byrne's father was in charge. He was not personally [fol. 1942] in charge. I do not think either Mr. McIntire or Mr. Welsh were in charge. They were connected with the company and were familiar with the plants, regarding

which they gave me information. I asked these gentlemen about the capacity and the nature of the gas generating equipment but not regarding the character and the nature of the construction of the buildings on the property. These are still largely the same buildings. Some of them are in, I think, the same condition today that they were in 1896. There may have been some minor changes in others. I don't know exactly what changes they have made in them. I did not ask these gentlemen any questions in relation to the number of buildings or the size or the character of the buildings that existed in 1896 or any question relating to the auxiliary equipment, exhausters and scrubbers excepting enough questions to be satisfied that there was never any difficulty in making capacity which they gave me. I asked for the weak points in the building, what limited their capacity, and therefore the equipment was only incidental. As a rule in the water-gas plants it is the oil retorts that limit the capacity of the plant, the gas generating capacity. As a rule, the water-gas generating capacity is considerably greater than the retort capacity. The limiting condition in all of these plants was the retort capacity. Mr. Benson, whom I interviewed is in charge over at the [fol.1943] Nassau plant. Mr. Byrne and Mr. Cross are still active. I am not sure whether the others are pensioned or whether they are actively at work. I don't know those as well as I do the men just mentioned. I don't know whether they were pensioned or active. They were on the payroll. I referred to the estimate of December 31, 1895.

Mr. Cummings: I offer that in evidence, your Honor.

(The memorandum was marked Defendants' Exhibit No. 132.)

I did not ask any of these gentlemen if there was an inventory of the property at any one of the plants taken over in 1896. On that occasion they did not produce for me any records. No books were referred to during my conversation with them at all. The description detailed in so far as I have given it here in this paper, Defendants' Exhibit No. 132, that I — about all I got from them. I looked at these sheets or photostats of these sheets that were used as an index. And I looked over the evidence of Mr. Mount

and certain statements or rather certain figures in the evidence which did not look very plausible to me, which Mr. Mount had taken from the books, and I looked at the books to assure myself as to whether the statement was complete. I only looked in certain specific cases at the books. I did not attempt to go through them page by page or to make any analysis of the books myself. It is right hard to say [fol. 1944] how much time I devoted to looking at these particular entries in the books. It is right hard to say. We have been working on them for three or four days and the books were by us and we would take a book and look at it for a minute or two and lay it down and go to something else, so it is very hard to say, but it was in connection with the study of the whole subject, which has consumed the last three or four days. It is right hard to say what the number of the 147 books was because we may have looked at three or four books at a certain specific time. Some inquiries may have been directed to three or four books at one time, or to one book three or four times, and I would not carry in my recollection which it was.

I found the cost of a building according to the books was $83,000, which was higher than what I had estimated for the cost of this building. The figure which I took for that building in 1895 was $39,176.64. That was my estimate on that building. I did not make any comparison of the cost of the other buildings except this one. That is the only cost of a complete building in the record that I was able to find. I don't recognize that sheet on Defendants' Exhibit 132, headed Value of Property at Time of Purchase Based on Average Daily Make of all Plants for December, 1895." It is nothing that I used. It seems to be based on reports of various people, Mr. Bush, Mr. Jourdan, Mr. Benson, Mr. Blodgett, and I don't recognize the figures. I did not use [fol. 1945] that particular sheet in testifying here today.

Mr. Cummings: Then I withdraw my offer as to that on e sheet.

Mr. J. A. Dykman: I object to the withdrawal of this sheet.

The Master: Then it will remain in evidence.

(Nine sheets marked Defendants' Exhibit 132, and 132a to 132h.)

Amended certificate of incorporation of plaintiff changing capital stock from $100 par value per share to no par value, received in evidence and marked Plaintiff's Exhibit 298.

Schedule entitled "Gas Securities, Broker's Quotations from Financial Chronicle" received in evidence and marked Plaintiff's Exhibit 299.

Schedule consisting of two sheets, the first entitled "Quotations on Brooklyn Union Gas Company Stock as reported in the Financial and Commercial Chronicle" and the second entitled "Quotations on Brooklyn Union Gas Company 5% Bonds as reported in the Financial and Commercial Chronicle" received in evidence and marked Plaintiff's Exhibit 300.

Schedule entitled "The Brooklyn Union Gas Company's Dividends" received in evidence and marked Plaintiff's Exhibit 301.

Two sheets showing quotations on sales of various securities of the plaintiff at different times during the year 1923, received in evidence and marked Plaintiff's Exhibit 302 for identification.

[fol. 1946] Plaintiff's Exhibit 148 for identification received in evidence and marked Plaintiff's Exhibit 148.

The opinion of the Public Service Commission of the State of New York, No. 22, decided August 30, 1922, matter of gas rates in the City of New York and suburban territory, case No. 79, etc.; opinion of the Public Service Commission No. 22, decided August 30, 1922, matter of gas rates in the City of New York and suburban territory, case No. 79, case No. 108, received in evidence and marked Plaintiff's Exhibits 303 and 304, respectively.

Deeds dated May 1, 1896 between Aaron P. Bates and Henry Percy Chotin, reported in the office of the Register of Kings County in Liber 3, page 195 of Conveyances in Section 10, Blocks 2888, 2897, 2898 and 2927, May 11, 1896, received in evidence and marked Plaintiff's Exhibit 305.

Plaintiff's Exhibit 306 for identification short of franchises of Brooklyn Union Gas Company, received in evidence and marked Plaintiff's Exhibit 306 for identification.

Deed dated October 15, 1923, from Brooklyn Improvement Company to Brooklyn Union Gas Company, recorded in the Office of the Register of Kings County in Liber 4319, page 176, Block 977-A of Conveyances, October 6, 1923, and also survey of premises embraced by Austin Ludlum & Son dated November, 1923, received in evidence and marked Plaintiff's Exhibits 307 and 308, respectively.

Plaintiff's Exhibit 309 for identification. A schedule entitled "The Brooklyn Union Gas Company Fixed Capital Accounts, June 1, 1923 to December 31, 1923, received in evidence and marked Plaintiff's Exhibit 309.

[fol. 1947] Plaintiff's Exhibit 310 for identification. Schedule entitled "Exhibit 283 continued to December 31, 1923" received in evidence and marked Plaintiff's Exhibit 310.

The Plaintiff rests.

MINUTE ENTRIES OF MOTIONS TO STRIKE AND TO DISMISS

Motion by counsel for the defendant Attorney General to strike out testimony of Austin S. Miller regarding the historical original cost of the property upon the ground that in making his estimate he took the average expenditure of money throughout the time which elapsed from 1850 down to 1895 and disregarded entirely all the data that the books contained respecting the installation of the property denied. Exception by defendants.

Motion by counsel for defendant Attorney General to strike out testimony of Austin S. Miller with relation to value of franchises denied. Exception of defendants.

Motion by counsel for defendant Attorney General to strike out testimony of Austin S. Miller on cost of financing denied.

Motion by counsel for defendant Attorney General made at the initial hearing to dismiss renewed and denied with exceptions of defendants.

MARK WOLFF, called on behalf of defendant Attorney General, testified that he was a certified public accountant and to his experience in matters involving public service

corporations. At the close of the cross-examination of this witness the Attorney General asked the right and privilege to withdraw all the exhibits Mr. Wolff put in which dealt [fol. 1948] with the capital accounts of the Company, namely Defendants' Exhibits 133 to 138. Counsel for plaintiff stated there was no objection so long as Mr. Wolff's direct examination and cross examination remained in the record. Such examination and cross-examination are omitted from this record.

Brooklyn Union Gas Company

June 25, 1924.

CHARLES E. VICTORY

Direct:

I reside in Brooklyn, New York. My educational qualifications are: An academic education, five and one-half years in St. James Academy, Brooklyn, New York; two and one-half years at Brown's Brooklyn Business College, bookkeeping and accounting course; two and one-half years at the Pace Institute of Accountancy conducted by Pace & Pace, 30 Church Street, New York.

After I was employed by the Gas Company prior to the time and during the time that I was studying with Pace & Pace, I was employed by the Jamaica Gas Light Company, Richmond Hill and Queens Gas Light Company and the New Haven Gas Light Company.

My duties varied and covered a variety of work. In 1912 in the absence of the Chief Clerk I was in charge of the office and all matters were referred to me in his absence. That was for the three companies. After leaving the Gas Company I went with the Public Service Commission.

I passed the Civil Service Examination and was appointed as an Assistant Examiner and Statistician in the Public Service Commission for the Second District, and I worked on the Telephone Rate Investigation from the start until the close of it. After leaving the Public Service Com- [fol. 1949] mission I went with the United States Internal Revenue Department and other departments. I was a Deputy Appraiser of the United States Customs at the Port of New York. In 1915 I was appointed Assistant Appraiser

and later Deputy Appraiser. I resigned in 1921. I am not quite sure of the date.

Byron R. Newton was Collector of the Port. I served under John K. Sague who was the appraiser, and later under F. J. H. Kracke. I served under Kracke until October, 1921, I think, and then after leaving that position I went with the Law Department of the City of New York, and I have been doing work for the Law Department in their investigation of Public Utility matters since that time and also for the Attorney-General of the State of New York. I have gotten up certain data from the records of the Brooklyn Union Gas Company.

Defendant's Exhibit No. 139 for identification purports to show the new meters purchased during the month of May, 1923, by the Brooklyn Union Gas Company. It shows the number of meters and prices, discounts, and the net price, and the extension of the amount, and also the grand total. I got this information from the monthly reports from the Meter Repair Department to the Brooklyn Union Gas Company. That is one of the books of account of that company and this is correct.

Mr. Cummings: I offer this in evidence.

This does not purport to be anything more than a transcript from the Meter repair reports. I prepared this my-
[fol. 1950] self.

(Defendant's Exhibit No. 139 for identification was thereupon received in evidence.)

Exhibit 140 for identification purports to show the new meters purchased during the month of June, 1923 by the Brooklyn Union Gas Company, and shows the number of meters, the gross price, discounts, and the net price, and the extensions, and the grand total and was taken from the monthly reports of the Meter Repair Department of the Brooklyn Union Gas Company and that is correct.

Mr. Cummings: I offer that in evidence.

(Defendant's Exhibit No. 140 for identification was thereupon received in evidence.)

Defendant's Exhibit 141 for identification purports to show the meters on the district, on hand and in meter re-

pair shops, the property of the Brooklyn Union Gas Company on May 31st, 1923, and it shows the Shop Distribution Department and the branches of the Brooklyn Union Gas Light Company and also the Meter Repair Department. The meters of the various sizes are shown on the sheet, also the total, both of regular and pre-payment meters. That is taken from the Monthly Branch Reports, and report of the Meter Repair Department of the Brooklyn Union Gas Company. * * *

[fol. 1951] It purports to show respecting the meters in the Meter Repair Department undergoing repairs, those that are already repaired and ready to be sent out on the district, and those which are in process of repair, and those which have not been repaired at all. The total repaired and ready for use is, of regular meters 2,269; total undergoing repairs and to meters repaired and ready for use totals 110, and the prepayment meters undergoing repairs and to be repaired, the total is 113.

I have marked up in the corner, "Source, monthly branch reports 3, and Meter Repair Department." I took this from the Monthly Branch Reports No. 3 and the Meter Repair Record, during the period stated on the schedule or from the report bearing the date on this schedule. The books were all there, and I simply went ahead and tried to find out where the information was in there that I wanted to get. Access was not denied to me.

[fol. 1952] Defendant's Exhibit No. 142 for identification purports to show the meters purchased in July and August, 1896, from the Maryland Meter Company, that is, 5-light meters; November, 1895, and in December, 1895, it shows the 5-light meter purchased from J. J. Griffin & Company, and in 1896, in January, it shows the 5-light meters purchased from the American Meter Company. In July, 1896, August, 1896, and September, 1896, it shows 3-light meters purchased from the Maryland Meter Company, and the 3-light meters purchased from the J. J. Griffin & Company, in November and December, 1895, and 3-light meters purchased from the American Meter Company in January, 1896. The source of that information is the record of meters purchased. It is a book called the Record of Meters purchased. This exhibit is correct.

By Mr. J. A. Dykman: That is a transcript from that book that I spoke of, Mr. Victory?

All the information appearing on this schedule appears in the book. I did not make any computations of any sort.

(Received in evidence and marked Defendant's Exhibit No. 142.)

Defendants' Exhibit 143 for identification purports to show the repairs of gas meters during the year 1923, drawn off for each month, and taken from the operating statements, Book No. 3 of the Brooklyn Union Gas Company. It shows in other words, the amount that the company expended for repairs to gas meters. It shows the amount for [fol. 1953] each month and the amount for the period, that is, the cumulative amount.

Mr. Cummings: I offer that in evidence.

It is correct.

By J. A. Dykman: A transcription from the operating account; with the exception of the totals shown on the bottom there, yes; I have separated it and added them together.

(Received in evidence and marked Defendant Attorney General's Exhibit No. 143.)

Defendant's Exhibit No. 144 for identification purports to show the repairs to gas mains for the year 1923 by months; it is taken from the operating statements Book No. 3 of the Brooklyn Union Gas Company. It shows the amount for each one and also the amount for the period, the cumulative amount, and also the amount from January to May and from June to December, and the total for the year. That is taken from the Operating Statements, Book No. 3. It is correct.

Mr. Cummings: I offer that in evidence.

(Received in evidence and marked Defendant Attorney General's Exhibit No. 144.)

Defendant's Exhibit 145 for identification purports to show the repairs to services for the year 1924, by months and is taken from the operating statements, Book No. 3

of the Brooklyn Union Gas Company. It shows the amount for each month during the year; also the amount for the period, and the amount from January to May, and the [fol. 1954] amount from June to December, and the total for the year. That is correct.

Mr. Cummings: I offer that in evidence.

(Received in evidence and marked Attorney General's Exhibit No. 145.)

Defendant's Exhibit No. 146 for identification purports to show the repairs to Distribution Tools for the year 1923 as shown on the operating statements, Book No. 3 of the Brooklyn Union Gas Company. The report shows the amount for each month, the amount for the period also the amount from January to May and from June to December, and the total for the year.

Mr. Cummings: I offer that in evidence.

(Defendant's Exhibit 147 for identification was thereupon received in evidence.)

[fol. 1955] Brooklyn Union Gas Company

June 25, 1924.

C. A. Cross

Direct:

I live in Brooklyn. I am seventy years old. I have worked for the Brooklyn Union Gas Company forty-three years, that is, that includes not only the present company but its predecessors; previous to 1895 I worked for the Williamsburgh Gas Light Company.

My first duties were Assistant to the Engineer, Mr. Thomas in 1881. It was then a coal gas plant. We had one stack of 20 benches of 6's, that would be 120 retorts, and we had one stack of 5's, twenty benches of 5's; that was 100 retorts. That is all we had when I went there.

The benches were set back to back, what was known then as a floor setting, you would work from the floor. The retort house was built of brick with an iron and slate roof. In those days they built retort houses about the same gen-

eral character. I have travelled around the country quite a little and looked at retort houses, early retort houses. There was a similarity of construction in retort houses. It was built in 1864. It was 60 feet wide. I cannot give you accurately the length, but about 200 feet with a slate roof, steel trusses, covered with slate. It did not have pilasters between the benches. In my experience the company did [fol. 1956] not have an iron retort house. There was a set of condensers, too; a washer, exhausters and engines, purifying boxes, a station meter, together with pumps and all those things, and nowadays they call it a scrubber. That is all they had when I went there, a washer. They were tubular condensers with the water going through the tube and the gas on the outside. I cannot give you the size of the condensers accurately. They were about 34 feet long, 7 feet wide and about 18 feet high. The capacity of the plant at that time when I went there was 1,800,000. The washer was a rectangular shaped vessel, the same size as the condenser, and it had sprays of water spraying up, which hit the roof and the water trickled down through the gas, the gas passing from one end to the other. The condensers were in a separate building with the washer. A building with one washer and two condensers. That was a brick building and is still standing now. It is of the same size today as it was when I first went there. The retort house is still standing, with additions to the upper part, steel construction. It is not any longer or wider today than it was when I first went there. Let me qualify that. At the upper end there was what we call a loom house that has since been torn down and added to the present house. They had two exhausters. They were McKenzie exhausters. I cannot tell the size of them. When I went there there was only one ordinary reciprocating engine. I cannot recollect the size of it. They used lime for purification then and that was in a separate house. That house was constructed of [fol. 1957] brick with an iron and slate roof. It is still standing, enlarged; that is, it is raised up, but it is no longer or wider than it was when I first went there. These McKenzie exhausters were in a separate house. That was in a room, the engine room and exhauster room was in one building. That building was the present engine room. The engine room which is on the property today is the same

engine room that was there when I went there, with additions now, but the old building is there. The old building is still standing and that is brick, too. They had a meter house. That was for the station meters. They had one meter. It was an ordinary wet meter. I don't think it had any name, but it was the American Meter Company's wet meter. The capacity of that station meter was 1,800,000. We had numerous pumps. We had one wooden tank and about six steel tanks of varying sizes. There was one boiler in the same building that was used for an engine room the engine room and exhauster room and the boiler room, divided by brick walls. Then there was a wooden lean-to in which there was another boiler, when I went there. The capacity of the two boilers was about 150 horse each. I do not remember what kind of boilers they were. At that time relief holders were not in use. Relief holders came in with water-gas. We had two commercial holders, on the Kent Avenue end of the property. Soon after I came there they built what is known as No. 3 holder. That was 460,000 capacity and after that they built what we called the large holder—the 1,100,000 holder. Holder No. 2 had a capacity [fol. 1958] of 330,000. Holder No. 1 is the same size, 330,000. They had two of them of 330,000 and one of 461,000. These holders, either No. 1, No. 2 or No. 3 were not built-over holders; that is, an enlargement of other holders. They built No. 3 holder shortly after I came and after that we built No. 4 which is a 1,100,000 holder. I do not know about how many miles of mains they had when I first went there. That did not come under me and I could not tell you that. Mr. Thomas had sole charge of the Distributing System but he had men under him, and I had nothing to do with that. He died several years ago. None of the gentlemen are living today that were there with me when I first went there. None but some laborers. We have got a pensioner who was a laborer but he wouldn't know anything about that. A man named Doran was keeping the books. He is not living now. There was no one there but Doran. I couldn't tell how many consumers they had.

They had a coal shed, a brick coal shed, with hoisting apparatus and cars and trestle, which had a capacity of about 5,300 tons of coal. That building is still standing. All of these buildings are still standing. They tore down

a barn, which was a wooden structure. They tore down a governor house, which was a brick structure. We tore down this loom house which was a portion of the retort house. We tore down a couple of blacksmith shops. That is all that I recall now.

I was there seven years before I took actual charge of [fol. 1959] the work, or what you would call making gas. Between the period from 1881 to 1888 the same method was pursued in making gas, still coal gas. I did not add any more benches. When I took charge, then, in 1888, the works were practically the same as they were when I went there in 1881. A man named Phillip Ford was in charge of the street mains when I went there and a man named Sammis, Israel P. Sammis, took charge from the time Ford left until 1888. They had a great gang of men who dug the trenches and laid the mains. It was all done by their own force. We made the first increase in the capacity of the plant after 1888—about 1892. We then installed eight Loomis generators. That was for water-gas, straight water gas, the way they make it now. We used part of the benches that we had for oil benches. We would make the blue gas in the generators and enrich it from the oil gas made by retorts. The capacity of the plant after I had installed the Loomis generators was between five million and six million; 5,000,000 to 6,000,000. They were put into a building that was erected for that purpose on the North Eleventh Street side of the property. That building stands today. It is used for shops, machine shops, paint shop and blacksmith shop. It was built of brick. It was put in use in 1892. It was built in 1891. A man named Charles Rowland was the engineer and designer of it. It was all done under my supervision. The size would be about 65 by 230, something like that. I am not sure of the measurements.

[fol. 1960] It was a brick structure with steel and slate roof. About April, 1888, he also constructed a new purifier house. That was in addition to the purifying house that we then had. That was on the north 11th street side of the property. It was a brick building with steel and slate roof. That is 124 by about 60. I am not quite sure of it. It is so long since I have had occasion to think of those sizes, I forget them exactly. We tore down a stack and

put in another stack of benches of a more improved type. That increased the capacity, only slightly.

A man named C. W. Blodgett was the secretary of the company and he procured all the figures as to costs, etc. He made all the contracts, bought the coal, and all that.

Holder No. 3 was built by the Continental Iron Works. That is the Rowlands. Logan & Son built the 1,100,000 holder. They are separate concerns. The Rowland people built the 461,000 holder, and the Logan people built the 1,100,000 holder and William H. White built the tank of the No. 3 holder. We use one of them for a relief holder now, that is, the oldest one, the capacity of that being 330,000. The first two had a like capacity. William H. White built the brick tank for No. 4 holder. In 1889 a charge to Rowland for making plans, and so forth, for the extension of the works, February, 1889, had reference to the installation of the Loomis generators. I had nothing to do with or [fol. 1961] gain any knowledge about the cost of these items of equipment or buildings in any way at that time. In 1889, I think, a payment was made to M. W. Landridge, on account of contract for new meter and valve house. We tore down the only meter house we had when I went there, and the only governor house I had when we went there, and we put up a combined building, having a capacity for two meters and the governor, and Landridge built that. That was brick too. We tore down two, they were two separate buildings, and we made it into one building covering the whole plot. The two we tore down were considerably smaller than the one we put up. We built it big enough for two big station meters. We built a new meter house. J. J. Griffin of Philadelphia built it. Those two station meters had a capacity of between five and six million. The last one had a capacity of 3,600,000 and it was called No. 2. We still have those. They are in operation now.

We put in an Eclipse Scrubber. We put it in to take the place of a washer. It was a foreign make; it was bought abroad somewhere and shipped here. I think I installed it. I think I erected it with my own men. That was the first scrubber we had. We were not adding any condensers along about that time. We still had the original condenser, two condensers. A portion of the Loomis apparatus was a

set of condensers, that came with the Loomis apparatus. The Loomis apparatus which went into operation in 1892 [fol. 1962] had eight generators, and in the next room was four condensers, and then the engine and exhauster on the end of the building. They had separate engines, separate exhausters and separate condensers. For this Eclipse Scrubber we had an 8 horse power engine bought of Isabelle, Porter & Company. As I recall it now on the payroll we noted so much for manufacture and so much for construction, but it was not itemized at all. I made some division there between manufacture and construction.

I notice here, Martin Iron Works, casting for tar scrubber. J. P. Whittier was a mason, and he built the building under a contract. Rowland was an engineer He drew the plans and supervised the work, and Whittier was a separate contractor who erected the building. Another contract was entered into *the* drive the piles; not to Whittier, to some one else, Walsh, I think, John D. Walsh, and all of this I looked after daily as it went along. Before we installed the eight Loomis generators, we put in two experimental Loomis generators, and they went in a little extension on the end of the present generator house, which Whittier enlarged enough to take in these two sample generators. We were trying it out and after we tried it out, then we built a separate house for it. In 1904 we installed a pair of U. G. I. generators.

In the distillation of oil at that time there was a great quantity of oil vapor that went to waste, went out of the waste pipe and went to waste, and Mr. H. H. Rogers who [fol. 1963] was then active over there, suggested that we see if we couldn't use that for enriching, instead of oil, and they after a lot of dickering agreed if we would put up a holder, they would pipe this up and take it, and we would pump it over to our side and use it for enriching instead of converting gasoline into gas, and that is the holder we put up over on the Pratt Works. About that time we put in an elevator in the Loomis house. Then I find Morton Iron Works, one oil storage tank and castings. I assume you had other oil storage tanks.

The Williamsburgh Works originally was started where it is now located. They had a holder there, and then they subsequently bought this property several blocks from

where they are now located, and tore down, or disposed of that whole works, and they started this new coal gas plant. Practically nothing from the old works came to the new works. At that time the business of the company was growing so rapidly that Sammis, with his gang of three or four hundred men, couldn't do the work that was required and they contracted out to this M. Gillen, some of the work of digging trenches and laying mains. As I recall it, he laid large pipe, and we laid the smaller sizes. We contracted to him the 20 and 24 inch. The Williamsburgh Company was quite a prosperous company. It was a big concern, even when it was little. About that time we installed a 164 horse power steam boiler. This was in 1893. That was a Babcock & Wilcox. That was done to assist the [fol. 1964] Loomis process. A part of the Loomis system was to make steam of itself by drawing the air down through a generator which ignited the coal, and the hot gases went up through a boiler and was supposed to make steam sufficient to run itself, but it wouldn't do it. We had to install this to assist that Loomis process. It was to save the waste. The benches did not have a regenerative system. Not the first ones. You mentioned the set that we tore down to build the new one. That was what was known as a half depth or semi-regenerative. It had part of the regenerative and recuperative features, but not wholly. At that time we had three boilers, 164 horse power, and then we had two others. The item for repairing asphalt pavement, Cranford & Company must have been on some street work that I have no cognizance of. I recollect an item for putting up an elevator in the office building; that office building is still standing.

When I first became connected with the Gas Company they were lighting the streets with gas. The company paid for the lamp post. I don't know whether the City repaid us subsequently. The City owned the lanterns, the tin lanterns, but we owned the posts and the services leading to the posts, we paid for them. The consumers did not pay for their services, after I went there. Not after 1881. My work has been entirely with the Williamsburgh Works.

From 1895 on, there have been considerable changes in the works. We have taken over or thrown out the oil gas [fol. 1965] benches and also the coal gas benches and in-

stalled U. G. I. machines, water-gas machines, Williamson machines. We installed those in 1909. There are none of the condensers there now that were there in 1895. They are all taken out. There are none of the exhausters there now that were there in 1895. The purifier has been altered. I couldn't say about the pumps, probably they are gone, but we have such a lot of those that I couldn't tell you. Some of the boilers that were there in 1895, four of them, are still there—four out of eleven. I mean we have eleven now. I think we had seven in 1895, and larger ones were put in their place and the engines. They are all gone. I cannot think of any other pieces of equipment that were there in 1895, that are there now. I mentioned that we had the station meter and the purifying sets. That is all I recall. I think I have mentioned everything. I mentioned the retort house and the holders and I took in about everything that I remember.

The wages paid to common laborers at that time was $1.50 for ten hours, and to foremen between $4 and $5. We used to have a higher priced labor for retort house men, gas-makers, machinists, carpenters, masons and all that. We just used whatever men were available, we took anybody.

[fol. 1966] Brooklyn Union Gas Company

June 25, 1924.

FREDERICK S. BENSON

Direct:

I reside in Brooklyn. I am forty-eight years old. I first went to work for this company in 1895. I worked for the Nassau Gas Light Company. I was then seventeen. My father was then in charge of the Nassau Works. I knew of the works and knew about the works before I was regularly employed. I used to play around there as a child. I really never paid much attention to it up to that year, 1895, and then I was acting as sort of an understudy there, to learn the plant, and that is how I became acquainted with it.

They had a combination works, coal gas and water gas. They had one set of benches there, 24 benches of 6's in one

house, and they had another house right directly north of that with 14 benches of 9's. Those were both generator benches. That consisted of coal gas, and then a little farther north of that was the Wilkinson process, retorts and gas generators. The Wilkinson process had four generators. Those were oil retorts. They had separate buildings. The benches of 6's were about 180 to 200 feet long and about 70 feet wide, and where the benches of 9's were, it was about 80 or 90 feet long, and about 70 feet wide, the same width of building right through and they had a blanket wall between. It was a brick building with a slate [fol. 1967] roof.

The Wilkinson process, the benches were located in a separate building by themselves, about 70 by 60, and that contained the illuminators, and then the building continued on out to the east with a blanket wall between, where there were four 500,000 foot generators. These were plain water-gas generators, up and down run. I have only heard them called hydrogen gas generators, that is all. That building continued on east and the boiler room was located there, and then just a little farther east of that was the engine room, condenser room and meter room. We had three 250-horse porcupine boilers, I forget the name of them. They called them the Hazelton boilers. We had New York Safety Engines—12 by 12—10 by 12 and 12 by 12. We had two exhauster engines and three blower engines, five in all, and then east of that was the condensers and the meter room. We had four condensers. They were just tubular condensers. The water was between the tubes and the gas went through the tubes; fresh water condensers. They were 8 feet in diameter and about 26 feet long and stood up vertically in the air. There were four of them. The meter room was just an extension off the condenser room and there we had our station meter. One station meter, a 12 foot drum, about 1,800,000 cubic feet capacity. It was an American Meter Company meter. The capacity of the works when I first went there was about two and one half million. That is the water gas plant, and the coal gas is [fol. 1968] about the same thing. They were both operating. I went there just prior to the time of the taking over by the Brooklyn Union Company. They had a building there that contained their boiler room and shops, and then

they had another building there that contained a purifying house, along with the coal gas condensers and coal gas engine room. The purifying house was a brick building, slate roof. A very large building, because it was divided by a partition wall, and at one side they had the purifying house, the other side they had the atmospheric condensers for the coal gas as well as tubular condensers. They had two large scrubbers or washers; they had two rotary scrubbers; the exhausters and engines were in there. The tar extractors were about 6 feet square. They were made of case iron. The atmospheric condensers were irregular shaped castings that converted the gas in an irregular flow in a vertical direction. They were about thirty feet high and they were in banks of about 15 or 20 tubes. We had three sets. The washers were in cylindrical banks about 10 feet in diameter and about 45 feet high. The water was sprayed in on top of the gas. We had two of them. Then we had two rotary scrubbers. They were about fifteen feet long and about eight feet high and eight feet wide. I do not know of anyone that was with the company prior to that time that is now living around Brooklyn. With the exception of — we have two or three laborers there that are in the plant yet, have been there some thirty [fol. 1969] five, forty or forty-two years, but they never had any connection with the operating end of it, just merely laborer's work. There is one man there that used to operate the Wilkinson process generator back in 1895. *He* name is Lyons.

[fol. 1970] Brooklyn, New York, June 27th, 1924.

FREDERICK S. BENSON

Direct:

In my description of the retort house and the Wilkinson process house in various rooms into which they had been divided as they existed in 1895. The only thing that I do not think I have mentioned is the relief holder. We did have a relief holder at that time. It was installed at the time that the Wilkinson plant was installed. For the coal-gas plants it was the general custom not to have a relief holder. The capacity of that relief holder was 100,000.

That was built along in 1892, at the time of the installation of the Wilkinson process. I am speaking from actual memory. There was the separator house with the associated tanks. There were oil tanks, separators, purifying house, generator house, retort house, boiler room, and engine room. I have described all those. Those were all in this one building, sub-divided by brick walls. The purifying house was a separate building. The retort house is for the coal-gas apparatus. The coal-gas retort house contained benches of 6's and 9's. The boiler room and condenser building, scrubber building, engine room, coal storage. That is a building for the storage of coal. That was a [fol. 1971] separate wooden building from the retort house. It was about 160 feet long by 70 feet wide, divided into eight different compartments in order to separate the different kinds of coal. We also had at the plant the office building at the corner of Kent Avenue. That was a brick building and is still standing. It has had several alterations made on it and extensions in the rear. One part of it is just as high now; the other part was raised up. The coal retort house building itself was raised a little higher in elevation from what it was originally. It is the same size today. The Wilkinson process buildings are practically intact. The Williamson machines are located in there. The building was raised to a higher elevation to accommodate those generators. The purifying house is still standing. One of them has been enlarged. We had three at that time. We had two in 1895. We built one and then enlarged another. The coal shed is not standing. That was remodeled, replaced last year. The capacity of the works, prior to the construction of the Wilkinson process I should say was around two and one-half million, to my best recollection. After 1895 and when the property was taken over by the Brooklyn Union, there were considerable changes made in the plant. The coal-gas apparatus was not taken out of the retort house until 1902. I could not say they made coal-gas right up until 1902 because I was not there at that time. After the plant was taken over, the U. G. I. twin generators were installed in the building that con- [fol. 1972] tained the 14 benches of 9's. The 14 benches of 9's were taken out and a complete unit of two generators and engine room and a boiler room were installed in that

unit that contained the 14 benches of 9's. They did not subsequently add to those generators. In that particular end of the building, but a little later on farther down where the 6's were, they did not subsequently add to those generators. Then that completely filled that building then with U. G. I. machines. They had taken out of that retort house, that old retort house, both the benches of 6's and 9's and had installed water-gas machines, the way we have them now in the water-gas and engine room, exhausters and boilers; and that did away with all of the old engines and boilers and condensers. The retort house had been altered, not the building demolished. They just took the insides of it out. They changed the Wilkinson Process over to the Williamson method. That was done in 1908. They took out all of these Wilkinson process generators and illuminators. They made the hydrogen gas separately in the generators. Then it was distributed at the benchs in which it met the oil gas from the benches or oil gas process, and then the two went along together there and were sent out that way. When they came to change over, they could not use these Wilkinson generators or the oil gas benches either. They had to completely take out all of that machinery. The [fol. 1973] building was altered, it was raised higher—the retort house. There was only one relief holder just south of the hydrogen generators. We had no commercial holders at the plant. We had commercial holders out on the District. The No. 3 holder, the Rutledge Street Holder was built in my time. That is the largest holder we had. It is 1,156,000 capacity. I believe it was built in 1896 or 1897. I do not recollect who built it. I took complete charge of the manufacturing plant in 1904. And just previous to that, I was a mechanic, machinist, and I got up to be general foreman, generator house foreman. When I came with the company, I do not call who was keeping the books of the company at the office. I do not recall. I believe Mr. White was the secretary of the company. He is not living now. I do not know of anyone who worked in the office about the time that he was living. My father had charge of the plant when I went there. Subsequent to that time, he had charge of a district. After the consolidation, he had charge of the so-called Eastern Division, comprising three plants, the

Nassau Works, the Williamsburgh Works, and the Equity Works. I could not tell whether any of the old officers of the company are living. The Peoples plant was not under my father's jurisdiction or supervision. I do not think I visited the Peoples Plant about that time. I do not recall going there.

The clerical work at the Works then was not my duty, when I fi-st went there. I do not recollect the clerk that [fol. 1974] was there at that time. I did not know anything about the distribution system, the number of mains or services and meters. I don't know whether there was a valuation of the property made along in the 90's, about the time I came with the plant.

The memo in 1892, June 15th, in the minutes of the company, additional $550 paid to Robert Cartwright for compensation in valuing property of several gas companies. Total amount paid $1,750. That was before my time, and I have no recollection of that. I have never seen that valuation of the property. My father kept the records of the manufacturing plant. He did not instruct me in relation to the keeping of the records. I was mainly out in the plant. I had nothing to do with the clerical work at that time. He has none of the old data at home that I know of. Those were all the major changes that were made in the plant from 1895 down to date.

BENSON

Cross:

I have not prepared myself to come here and give any detailed statement of all changes or additions or withdrals made since 1895 at the Nassau works. It is just like a big picture in front of me as I saw it, and I have told simply what I recall. There may be other changes, or there may not, which have not been brought to my recollection. [fol. 1975] From 1896 to 1899 I was at the *the* Newark Gas Company, and from that time when I left there I was with the Elmira Water, Light & Railroad, Elmira, New York, until the spring of 1894. I left the Nassau in 1896 and from 1896 until 1904 I was not there; I came back in 1904 and have been there steadily since.

The capacity of the meter I gave as 1,800,000 cubic feet was not the only meter we had there. During this period of

three years when I was in Elmira, I did not come home occasionally. I was away from 1897 to 1904, about seven years. I came home when I lived in Newark when I was with the Newark Gas Company. I used to come home occasionally and visit the plant, and then I was away for a period of three years without coming home at all. I had occasion to see the changes that had been made in the plant upon my return.

[fol. 1976] E. J. Byrne

Direct:

I live in Brooklyn. I went to work for the Citizens Gas Company in December, 1872. Their plant was loacted at Fifth Street and Hoyt where the present plant is located. The Union was merged with the Citizens about 1893. That was known as the Citizens Branch. Before that, they were separate and distinct gas companies.

The Citizens plant, as I remember it, was coal-gas. I am speaking of 1872. The capacity of the coal-gas plant was half a million. They had about 40 benches of 5's. They were back to back, about 8 foot 8 or nine feet long, and backed up on the other side. These benches in the retort house—that is were in the retort house. And that is all there was in the retort house in the way of gas equipment. The retort house was a brick building with an iron truss roof and slate. The building was about 60 feet wide and 200 feet long. The building is standing today; only it has been raised up to receive apparatus which we had to put in. It was too low, so we raised the roof up. I am connected with the company now, not there though. I continued to work in the Citizens Works up to 1916. They have water-gas sets, but how many, I don't know. They were taken out before consolidation; and they raised the building. With the retorts, we had condensers and washers, station meters, exhausters, a purifying house, and commercial holders. They had a purifying house. I would [fol. 1977] not say it was small. It had four boxes that were about 24 by 16. That was a brick building. It is there yet. That would be about 20 by 60; almost as large

as the retort house. We had an office on the corner, a brick building; an office and meter room, and in the middle of the block we had a valve house and governor house. It was originally a wooden building, but we put a brick building in the place of it years ago. When I went there it was wood. I am referring to the time I went there first. There were tar tanks in the ground to receive our tar for the manufacture of gas. There was a building, a lean-to on the south end of the retort house, where they made naphtha gas. That was a building about 60 feet in width by about 40 feet. They made naphtha gas there. They made a naphtha gas which was mixed up with their coal gas to enrich the gas. It was just a vapor process. They put the oil through a pipe and turned it into vapor, and then would bring it down and would put the coal gas into it and coop it up. That was a part of the process. That was about the first in the country. It was known as the Olney process.

The size of exhausters they had when I first went there I do not recollect. I know just about the type. They were the McKenzie exhausters. They were in general use. They were in the purifier house building, and it was divided off by a brick wall in between down at the end. The condensers were just inside that partition. The exhausters were in this side and the condensers on that side (indicat-[fol. 1978] ing) and the washer was opposite the condenser, then the purifying boxes came in that other room, all one building divided off. I think the exits were two small engines, New York Safety. I think they were about 15 horsepower. It did not require much engine business at that time. I think they had two boilers, one locomotive boiler, and one upright boiler. The horsepower of the two boilers I think was around 175 to 200 about, the capacity altogether about 100 and 75. I was not in charge of the plant or making gas at that time. I was only fourteen years of age.

I was an office boy for a couple of weeks and then I was thrown out in the yard and put in the coal shed weighing coal and I was out in the yard where I learned what little I know about gas operating. The first change we had in the plant after 1872, there was an accident out there one night, that destroyed some of our holders. I won't say they

exploded. You know the construction of a holder, it is telescopic, and the insurance people came to the conclusion it was the strong wind that took the water out and unsealed it and allowed the gas to escape to a lamp post which was outside, and there was a flash-back and explosion, and that unsealed the other holders and there was a fire. They were brick pits. I think it cracked one of the pits. When I say the whole thing I mean destroyed the holders, not the whole plant, but they were rebuilt then the following year, that [fol. 1979] was 1889. The Bartlett-Hayward then rebuilt three more; had the three of them finished, that was in 1889 they were finished, in about a year, in September. We got the first holder back in July. The capacity of the three holders that were done away with was just about the same as they are now, about 495 and 245—about 245 or 246, about the same as they are now, built in the same pits, used the same pits to put them in. The additions came along about 1890, the first changes I remember. We put in the gas retort generator system of making gas instead of coal-gas, which consisted of benches and generators, relief holders. This is the first time I had a relief holder; did not need one with coal gas, but the water gas business needed relief holders. That was in 1890. In 1890 they changed and started into the manufacture of what we might call water gas known as the retort system in place of generators and carburetors. Nowadays they use carburetors and super-heaters and those days they used oil retorts. They put in a set of oil retorts and also some generators. They took down some of the old benches and put in generators, took out one end of the retort house. The machines were longitudinals, long like that table there (indicating). They were just gas generators. I guess about twelve feet long. After I made that installation the capacity of the plant was two and one half million. It was increased then from 500,000 to about 2,500,000. The Isbell Porter Company of New Jersey installed the generators under contract. None of the men around the works did any work for those [fol. 1980] contractors, not to my knowledge. That was all separately contracted for, what the contract was to finish the work. At the time I made this installation of water gas it was necessary to put in a new condenser and

took out the old one. Then we had to put up a new building, that is a purifying house about 1890 this started, and the new purifying house I think went up in 1893. That was in conjunction with this increased make that we put in. The other house was not large enough to take care of our capacity. All I remember was installed at the time the water gas plant was built. We put up a new purifying house. I guess that is about all.

Referring to the note in the minutes "Resolved that the Citizens Gas Light Company hereby agree to purchase the nap-tha gas works now on their premises and the contract held by the Union Chemical Works with this company." That is the only process that was there. That must have been the one. The chemical works was right alongside of it. That is about 1872, that is about the time I came there. I did not think it was as late as that. In 1892 there is a note here of the purchase of a new boiler, November 1st, 1892, and November 8th, 1893, the erection of a purifier house. That is the purifier house that I speak of. Shortly after the construction of these new holders to take the place of the ones that were destroyed, the Citizens Company and the Union Gas Light Company consolidated. Shortly after that. I have some knowledge of the Union Plant. I went [fol. 1981] out there a few times. I cannot give the details about the first Union Plant. They had about three small benches there and a couple of retorts, 8's and two generators and a boiler. I am just trying to bring my mind back there now by going out there to do some work. About three benches and two generators and boilers, and then they had their purifying capacity to take care of the capacity. I guess they could push it up to 750,000. That plant was larger than the Citizens when I first came with the Citizens, because that was a water gas process and ours was an old coal gas plant that took much more space. I won't say they always made water gas. I am not sure but they did make coal gas with retorts before that and turned it into a retort water gas system but my first recollection is when they were making water gas and they in 1872 had a capacity greater than the Citizens Works and they likewise had a brick retort house, condenser house, and station meters and purifiers and the buildings around a gas plant, such as a retort house and purifying house are of about the same

general character; about the same general character of construction. They had a small commercial holder, I think when they were making that water gas. It was turned into a relief holder of 30,000 capacity about 1893 or 1894. 1893 I would say. About 1893 I am describing conditions at the Union Plant. I think the consolidation was 1895. That was a couple of years before that, two or three years before is the best recollection I have got. I recollect at the [fol. 1982] time of the merger, I suppose there was a valuation made of the two properties at that time. I don't know anything about that. We had enough to do making gas. That would not be a part of our business at all. In the account $954.06 New Generator that isn't the full price. It says "Generator Account." The account was closed out. That was the Generator Account. That wasn't for the purchase of a generator. There were three generators. I have no knowledge of it anyway, what kind of generators are referred to there; according to that, I know the kind of generators we had at that date. In 1893 was when we built the new purifier. It was completed in 1892. The Bartlett Hayward people did not build it. They didn't have anything to do with the building. They built two condensers and the purifying boxes. I can't recollect just who built the purifying house. That was a brick building. I think it was about 200 feet long by 60 feet wide. It was about as big as the retort house. It has a cellar and a floor above, and another working floor up near the roof. That was two retort houses we had. We gave up the use of the first one when we got the new one built and turned it to another purpose. It is now being used as an engine room.

The notation, "new boiler house" in 1892 and 1893 is in connection with this water gas plant on the west side of the retort house. That was not a brick boiler house. That is [fol. 1983] corrugated iron. I am not sure whether it was the Logan Iron Works who built the boiler house. I think it was. They put in new two 250 each boilers there in this new boiler house. I think they were Babcock & Wilcox boilers. We put in five steel oil tanks in 1890, about 8 feet in diameter and 32 feet long. We got along with those for a few years; we didn't make any change just then. In April, 1892, I recollect that one generator 13 feet 10 inches

by 6 and 10 by 13 feet 8 inches, I think it was, was erected at the plant. That was purchased from the Isabelle Porter Company. It was around 1892 that we put in 12 retorts. We were always putting in retorts.

Defendants' Exhibit No. 96 refreshed my recollection in regard to the installation of retorts. Now that my recollection is refreshed, we did install 12 retorts in 1892. Looking at Defendants' Exhibit No. 96 for identification. That is Logan & Son. I would say it was purchased from the Logan Iron Works. The capacity of the boiler was 250 horsepower. There was also a smokestack put up. To the best of my recollection the stack was purchased from Logan too. I think Harden Brothers set the stack. Defendants' Exhibit No. 96 for identification shows Miller did that; he put up that stack; that is right. My present recollection is that B. C. Miller & Sons put up the stack. In connection with these construction jobs, the men at the plant, the operating force, did not do any of the construction work.

[fol. 1984] I recollect the main, but we were laying mains all the time. We never ran right to the Brooklyn Company with a main. We made a connection at Warren and Levins street that brought us down to them. Perhaps that is what you have reference to. That was about 1893, I think, but we never laid a main from the Citizens down to the Brooklyn Works. I had to do with the distribution system in a way—only in a general way. That was a different head. My brother was engineer of the works at the time, and I think Edward Campbell was the foreman out in the street, and a man named John McGowan did pretty much all the laying of mains. By reason of my contact with my brother, I gained considerable knowledge about the distribution system. That is true of the experience any one has who gains knowledge. I could not state exactly the number of consumers they had at the time they were taken over in 1895. I don't think there was any wet meter out on the district at that time to the best of my recollection. When I came there in 1872 I was a boy around the office for a few months. I did not then start in to make gas. I went in the coal sheds weighing coal, first and after I got through with weighing coal I worked in the storage house, and I went from there to the office. I was a gas maker afterwards; had charge of the gas making. I had charge of the plant with others over me at the time. There was an

engineer and superintendent and foreman. I was under the manufacturing superintendent for a while before I became manufacturing superintendent. I was assistant manufacturing superintendent, you might call it—About [fol. 1985] 1891; I became manufacturing superintendent about 1900 and continued on in that position until 1916. Any time I had nothing to do with making up the records at the works to sent to the office, I might have assisted at times; it was not my special duty to do it. They had a works' clerk at that time that used to take care of that. A young man named William R. Bunker was there and my brother, afterwards, at the works. They kept the books of manufacturing. The general books of the company were kept at 130 Atlantic Avenue at the general offices. They had several bookkeepers there and the president and the treasurer and six or seven clerks. I do not think any of those are living today. I had nothing to do with making up payrolls at the works. That was the clerk's duty. I did not employ any of the men at any time at the works. I think I know about that time, from 1872 on, about what wages an ordinary bricklayer was getting. They were getting around $4 to $5 a day. A first class bricklayer would get perhaps a little bit more. The only thing I remember was that leanto, the naphtha process at the end of the retort. There was an old barn and a stable there taken down but up to today the Citizens works have been enlarged and quadrupled in capacity. It is forty times bigger than it was in those days. Most of these old buildings are standing, that were in existence when I went there. The retort house was the only one that was raised. That was raised to take care of high machinery. To the best of [fol. 1986] my recollection, I have told everything that I can remember about the condition of the plant in 1895 when it was taken over by the Brooklyn Union Company.

BYRNE

Cross:

I did not charge my memory with any details or make any preparation for this examination. I did not know what I was going to be asked or anything. And consequently what I have said constitutes simply my recollection, with no intention to definitely state all the details of those works from 1872 to 1916.

[fol. 1987] FRANK J. McINTYRE

Direct:

I live in Brooklyn. I first came to work with the Brooklyn Gas Light Company when I was not quite sixteen. It was a coal-gas plant then. I was only a boy those days and it did not interest me much, so that I know the capacity and so forth. I knew the capacity around 1881. I was interested more in those days. The capacity when I first knew it was along between two and three million. I think it was between two and three million. It was altogether a coal-gas plant at that time.

I could not say exactly how many benches they had in 1881, but I think at a later period I could. Along in 1885 they had twelve benches of 5's and then had ten benches of 6's at that time. That is all at that time. The retorts were on top of one another, that is, built up, five in a bunch and six in a bunch, different kinds of stacks. We call them stacks of 6 and stacks of 5. The retorts are built—here is one and here is another one, four and the middle one and the top. That is what we call a stack of 5's or a stack of 6's. They were not through retorts. There weren't any through retorts in our works. These benches of retorts were in the retort house.

The retort house was a brick building. It did have a slate roof and iron beams across. It had pretty near the [fol. 1988] same general character of the other retort houses. The retort house was longer than it was necessary in the 5's, and the other about 500 feet long, and about 50 feet wide which was enough and the 500 feet was enough. Later on we had a stack. In that 500 feet we had a capacity of 6's of 32 benches additional which we put in the retort house. Then we had a stack of 10's, 9 retorts to the bench. That was on the same floor. We had generators, four generators on the same floor that we used to have a stack of 6's. We had 12 benches of 5's which was knocked out altogether, no use any more, and then the coke used to be drawn down and quenched there and taken out by horsepower. We did away with the house that the 5's were in. That was thrown into what we call coal buggies and taken out of the yard. The 5's were altogether in a separate part of the house from the 6's. We had 10 benches of 9's. The

6's was the first addition. There was no thought of 9's in those days. That is later on. The 5's and 6's were first; then we put in the 9's around about 1886 or '87, somewhere along there. And after putting in the 9's, we put in some more. That was the last stack. That is all they ever had in the retort house, that is, in the shape of benches. We had in the shape of benches where they had the generators, we had a stack of 10 benches of 6's of another design, and those were taken down and replaced with generators. The benches of 6's in addition to the 9's, they were all coal there [fol. 1989] in 1886 or 1885, I don't remember the dates of those things so long ago; you can't carry in your head, not having any books or nothing for the last twenty years; you can't carry everything in our head like that; and it is not a matter of fault of recollection of mine. And we had four of those benches of 9's for oil. That is, we made the blue gas in the generators. This was somewhere along in 1885. The capacity of the plant was more than along in two and three million. The capacity of the plant was over 4,000,000 in 1885. At that time we had a capacity of 5,500,000; that was our outside capacity. That was about 1885 or '86, somewhere along there. Aside from this big, long retort house, we had coal sheds and so forth, purification houses and all that, scrubbers and condenser rooms. We had a separate brick building for the scrubbers. Everything was separate. The scrubber house—we had a tank over there for water, the tank was about 47 feet high and the scrubber was underneath that, so that we had the floor watered and got it all over the place, the scrubbers and everything else, artesian wells that was, for cooling purposes, and there is more cooling in that than other water you can use. That was a washer, the scrubber first, and then the condenser. That was in a brick building, not outside; we had nothing outside; everything was inside. There was nothing else in this particular brick building except the [fol. 1990] scrubbers and the tank which supplied the whole plant.

That brick building was about—I think 75 by 20. It was high; it was over 50 feet high and built at the end of the retort house. It had slate roof; we had nothing else but slate roof on any part of the whole plant, no matter what it was, only the coal shed; and that was iron and corrugated iron.

The coal shed had a capacity of about 42,000 tons of coal. It was really about an acre of ground under five roofs. It was an immense coal shed. The plant of Edison's people is over on the same property now.

I don't recollect what kind of exhausters they had when I first went there. They are regular McKenzie exhausters.

We had a capacity there for about two million—three million. That is a past thing. It is so long ago, something that didn't bother me at all, I wasn't interested much in the business, only remembered it as I went along. The exhausters were in a separate brick building, by themselves. The building in which the exhausters were wasn't so large, that was about 30 by 20, I guess. There was the retort house and condenser house and the engine house. That was separate. That was connected with the blacksmith shop and machine shop and carpenter shop. Upstairs was the carpenter shop, and upstairs on the first floor was the [fol. 1991] machine shop and the blacksmith shop was in the cellar, and the engine room was on the ground floor. That was a brick building. That building was 100 by, I think, 75, somewhere in that neighborhood. The exhausters were in the other building which I have already described. They ran the machine shop and did the pumping and so forth. We had two regular horizontal engines, Byrd & Company, not in business today.

We had a boiler house downstairs. We had four boilers down there. That was just in front of the retort house. The cellar you see was a large cellar where all the coke fell down and was taken out by horsepower you might mention, and the boilers were all on that floor, on the level on that floor there. There were three or four boilers. The cylinder boilers were the first boilers they had there. Of course, it was hard to get steam up; you had plenty of water, a large body of water, and if you were in a hurry, it did not last so long. They were about 50 horsepower, the two Babcock, and the others, the cylinder boilers, I don't remember the capacity of those. We had a meter house. We had two station meters, both of them of a capacity of two million. They were in a separate house too, in the exhauster room. We had a large exhauster room and had two large exhauster rooms there then in this meter house. Those were aside from the retort house at all, across the

street, on the other side, the same side the purification [fol. 1992] house was on, part of the condensers, and so on. They had one relief holder. I do not recollect when that was built. I think somewhere along in 1886 or somewhere along there; I cannot really state. When we had the coal-gas tank, we did not need any relief holder. We did not need any at that time when the coal-gas plant was there, but I am talking now about when they put in the generators, then we had to have relief. We could not do without relief. The capacity of the relief holder there was about forty-five. At that time we had three commercial holders, one of 296,000 and 301,000, located at Plymouth and Gold Streets. In 1867 they built the one 580, No. 4 on Front and Bridge Streets. Then in 1890 they built the large 1,146,000 holder. No. 3 holder is down at Plymouth and Gold Streets and No. 4 in 1867. They commenced around April 1st, and put gas into it on the 9th day of December. I was in an accident. I never got to bed at all for four days. It was supposed to be the largest holder in Kings County at that time. There wasn't many large holders in those days. We had a litle trouble cupping it. That is why I remember it so well; I was an active man in those days. Continental Works—T. F. Rowland built the holders. That was the first holder he ever built. He got into the business after that. The superintendent at that time—was Alonzo F. Havens. He drew the plan of that holder. He is a mechanic, an architect, a machinist by trade. There was [fol. 1993] nobody in the gas business who was allowed to have anything to do with it that weren't mechanics of some kind in those days, but nowadays they come in from the office with white colors and walk in and walk around, and that is the way it is. We have to go over the history as we find it. Rowland had the contract to build it, and he built it according to orders, according to Alonzo F. Havens' direction, as he made the plan and gave him the plan to go by, and it happened to be when she was built, she was two inches out of plumb and that was his fault, not knowing how to do it, it was his first experience, and that is why I had the trouble of staying up four nights to get it right.

Mr. Havens was the superintendent of the Brooklyn Gas Company at that time. This holder was built under the

orders of the Company's own superintendent. They never had any outside contract work at all. He did all this work himself, and the pit was built there by Peck & Allen, if you ever heard tell of them, the bricklayers; and that doesn't leak a gallon of water in 24 hours.

The brick came from Jersey, or some place; I don't know where, but I know that is where that came from. It was put together, and it was built to stay there. It was built by a day's work. The company supplied the brick, and it was built by day's work, by Peck & Allen, the bricklayers; they were doing the work by day's work. They [fol. 1994] found bricklayers and were doing it by the day. They hired the men at so much per day, and they got so much for the men. They did not use the men around the plant to lay the brick. That was rather expensive. We did not keep more than two bricklayers at any time.

Tom Rowland did the iron work. He had his own men; he had his own riveters, and all such men as that. They were then in the habit of building for the Government vessels, and so forth, that are required to stand great strain at sea. None of the men who were on the work worked on the holder.

In 1890 the big holder was built. I recollect that too. Charles Rowland built that. Logan was the man that did the building, but it was under the supervision of Charley Rowland. I couldn't tell just exactly how that was; but he made the plan for the holder, and the other men did the work. That has a brick tank to it too. I don't remember the man's name now who did the brick work. We didn't have anything to do with that. That was in the contract. The only thing the company had to do with in the building of these holders, was the preparation of the plans for the holder, at least the first holder, which was built according to the plan of Mr. Alonzo Havens. The company did that. The other holders were built by Jesse Starr, of Philadelphia. Those were the old holders. They were started there in 1847 and 1848. Charley Rowland drew the plans, and the Logan Iron Works did the iron work; and I sup- [fol. 1995] pose they contracted for the brick work, I don't know. The working capacity was five million and a half in 1895 when it was taken over. Of course, if we were pushed, we could do more, but we never did it. That was about the highest we did.

Between 1885 and 1895 they did not increase the capacity of the plant. We grew right up along there, adding a piece to it right along, as it was required. You can't go to work and build gas works and fix it this year to supply a demand for next year. You have to work up to it. That is the way it was in that corporation. It was added to as we needed it and was the highest capacity at that time in 1890—5,500,000. In 1885 it was not quite that. Between 1885 and 1895 we added to the capacity of the generators, making them over two million. They did not build any additional buildings between 1885 and 1895 that I can recollect. We had a large purifying house, and all that I told you about, and everything. We had meter rooms and exhauster rooms, and I told you about all the buildings. All those buildings were brick buildings, slate roof and corrugated iron, the coal shed, and the rest were all iron. That corrugated iron was shipped from the other side; took three vessels to bring it over. We didn't have a chance to get iron at that time in this country of that kind, but later we got it. It came across in three ships, and there was some of it there when the Edison people came to take it down.

[fol. 1996] The building was added to the plant down at Clark Street. There are boilers there and a pumping station and three large engines there. Then aside from the works, we had a pumping station that was added on afterwards. The buildings that I have described were not any different in 1865 when I went into the company. They were a different class of buildings altogether. They were smaller capacity. There was no need for such a large building as that. The company's employees did not do any construction work at all. Taylor had the contract to put the floor down, $40,000. As times changed we had to make changes. At the time of the consolidation those houses were all in good order; everything was new, all rebuilt. The life of a retort is about two years, and then you have to rebuild them again. The Brooklyn Gas Light Company didn't sell off territory to the other companies.

The Nassau Gas Works was built in 1871, and they made gas there in 1873. We could not supply the demand. It was increasing so great we could not supply the demand, and they had to build the other companies, and then it went into the Nassau company. It was districted out. They trans-

ferred a certain district over to the Nassau people. Our district was divided between Washington Avenue and Atlantic and Fulton, and all that, and the Heights and around there, and the Citizens came in there on one side of Atlantic Avenue. The Nassau went out between that and East New York. Then the Williamsburgh had its own. I do not [fol. 1997] know about the transfers of the districts. I only know the dividing lines. That did not come under my capacity at all. We were doing the work around the works, and that is all we were required to know about, but I know that these things were done, and I know the dividing lines, and so forth, but so far as anything else is concerned, that was the Board of Directors' affairs, and not the employees. That is all right, but it was none of my business; I was not interested in that. I was making gas; that is what my business was.

The Peoples Gas Company never bought gas from the Brooklyn to my knowledge. I don't know anything about that; they might too. The Peoples had a coal plant there at the Wallabout alongside of the Nassau for a while. I couldn't tell you anything about the capacity of it. I was not interested and didn't know anything about it. From the start, I believe they operated—I don't know how many years from the time they started until they quit; I couldn't tell that. I do not recollect what time they quit. They quit before 1895 before the consolidation, I think. I am not positive; but I think they must have. I couldn't say that after they quit, they didn't buy their gas from the Brooklyn Gas Light Company. In making gas, it might be my understanding that I was not only making up my own consumption, but for the Peoples Gas Light Consumers. I don't remember whether we ever made gas for any other companies without they were short, and we might have helped them out, other than that I don't know. I had charge [fol. 1998] of sending out what was required. The mains and services and meters were all done from Remsen Street. We had charge of manufacture. I don't just recollect who did have charge of laying the mains at that time. There was a half a dozen different people off and on. Alonzo F. Havens had charge of all those things. That didn't come into my line of business whatever. We had to supply the gas; that was our part. We had a works clerk at that time

to keep the record of the works. The record of the works were kept in Remsen Street. Reports were made every morning, and that was carried to the main office. The time of the men was kept by a clerk. There was a time keeper for that business alone. He worked under me. I was in charge of the works.

I have told, as fully as I can remember, how the plant grew up and so on when it was taken over in 1895. In 1896 they stopped making gas, and then the plant lay there idle for quite some years. It was torn down and disposed of, and now the land has been sold to the Brooklyn Edison Company. In 1896 I came right up to the pumping station in Front Street there. Then after they had disposed of the plant, all they had left was the mains and meters and services and holders and this pumping station.

McIntyre

Cross:

When they stopped making gas at the Brooklyn plant, I [fol. 1999] stayed on there at the pumping station and kept my eye on the plant. I looked over the plant daily to see what was doing there. After we stopped making gas, they took different pieces of apparatus out of that plant and took it away to other plants. I will be 76 years old the 18th of next December.

[fol. 2000] Richard J. Welch

Direct:

I was born in Brooklyn and went to work for the Citizens Works in 1890. I was present when Mr. E. J. Byrne testified relative to the Citizens plant. Regarding the plant that was taken over in 1895, the information I would give would practically — the same as Mr. Byrne testified to, except he said that the boiler house that was built there was of corrugated iron. I would say it was brick with a slate roof. That is the only thing that I differ with him about. Roughly, I would say that the size of the boiler house was about 40 by 30 feet, probably about 30 feet at the peak and 20 feet at the side, with a slate roof, slate on boards. I was in

the Union plant but once, and I have a very poor recollection of it.

WELCH

Cross:

The boiler house was built after 1890, and he located it on the west side of the retort house. That is the original one that was built of brick, and later on a corrugated boiler house was built on both sides of that, so the first original one that he spoke about was brick. My recollection is that there was a brick boiler house to which additions of corrugated iron were made on either end.

[fol. 2001] ALEXANDER P. HAMILTON

Direct:

I live here in Brooklyn. I first went to work for the Fulton Works in Brooklyn, either April or May, 1881. Prior to that, I worked at West 44th Street and Eleventh Avenue. When I came to work with the Fulton Municipal Company, I was what they call a benchman—around the benches, making gas. There was a stack of seven benches, four small generators, four boilers. Seven benches of 6's and four small generators, the old style generators. They called them gasogenes in those days. They had four boilers in the retort house. They call that the generator house or gasogene house and bench house. It was all combined. The bench shop and all was in there, no paint—the benches and the generator. They were making water-gas in these oil retorts. That retort house was about 65 by 125 and of brick. I should judge it was 30 or 35 feet on the side, with a peak, slate roof, and iron beams across it. All these generator houses and retort houses are pretty near on the same order.

The capacity of the plant, then, I think was about a million and a quarter. I could not tell you right off now what size boilers they had. They were four small boilers, probably 125 horsepower each. That was all that was in the retort house. On the lower end towards the canal there was an addition to the retort house, and you had to go out-[fol. 2002] side to get in. That is where we kept our car-

buretors and pumps. We had three carburetors, steam-heated carburetors to vaporize the naptha. They were about 5 by 7, I should judge, and I think about ten feet high. They were constructed of iron and steel. Next to that room where we had the carburetors, there was a brick partition between the two walls, where we kept the pumps to pump the naptha up in the other building.

I do not know who built the retort house. I heard Mr. Deeves built it, but I would not swear. They had a building for the exhausters, and right next to it for condensers. The exhauster building was of brick. I should judge about 40 by 80. It had two MacKenzie exhausters and two blowers there. And next to that—in the next building were scrubbers and condensers. I think there were four condensers and two scrubbers. The size of either the condensers or the scrubbers, I should judge was about 6 or 7 feet in diameter and probably 12 or 15 feet in heighth. The scrubbers were about the same size. There was just a brick partition with a doorway going through. There was one building in which were contained the exhausters, condensers and scrubbers. We called that the condenser house, and when we went into the exhauster house, we called that the exhauster house. There was just a doorway through in which you went from one to the other. I have stated now they had a purifying house of brick about 50 by 60. It was about [fol. 2003] 25 feet high. The bottom of the generator house is standing. They have taken the roof off and extended it up. It is no wider or longer. It is the same building except that it is raised up. The building in which the condensers, exhausters, and scrubbers were is still standing. They put an addition to it, I think, with more condensers further down. It still has the condensers in it now, but they use it for an old blower. The- took the condensers out and put the condensers toward the Canal and used that for a blower room. The building in which the condensers, exhausters and scrubbers were located at that time is now used as a blower room.

Through another building with an extension to it, is the purifier building. It is still there yet. It is in its original place, but they built an addition down on the next street to it—built another building over on Stryker Street. The office was there and the building with the meters in. The

office building is still standing. We had two station meters at that time. They are down there now, the same size. I think there was nine—they put an addition on them. I think they were 9 by 11—or 8 by 11. Their capacity was 600,000 feet. We had engines located where the exhausters and blowers were, right alongside of them. It was hitched up with a belt. The engines were really in this exhauster room. They had two engines for the exhausters and two for the blowers, four engines. I think there was a New [fol. 2004] York Safety and I think two of them were Greenfield engines. It was a long time ago, but to the best of my memory, they were. At that time the boilers were all in the one building. The boilers were over with the generators.

They had a shop that we called our shop for general repairs. That shop was upstairs over the condensers. You went up by stairs at the side. That was a machine shop and fitting shop where we made all the repairs. We did not have a separ-te blacksmith shop or meter repair shop or anything of that kind. That was the only thing. We had a couple of fitters there. We had a wooden shed down toward the Canal, the other side of the condenser room. Then we had ten iron oil tanks. When I first came there, there were the governor house and the holders. That was a small brick house. All these buildings had a slate roof on them.

We had a small relief holder. I should not judge it was over twenty-five or thirty thousand—if it was that. Also we had commercial holders. They are there yet. We had two holders between Third Avenue and Nevins Street. One was of 252,000 capacity and one of 284,000 capacity. And those were built before I got there. Then during my time, while I was there, they built the Third Avenue and Degraw Street holder. That is supposed to be a million. And that was built by Bartlett & Hayward. That is all the holders they had. They got another relief holder built since then, [fol. 2005] 100,000 holder. That 100,000 holder was built possibly, in '84 or '85. That is the present relief holder. In 1888 or 1889, with some payments to H. J. Davidson, I do not recollect any such holder, not unless this is the relief holder. But I thought that was built in '85. I think the Third Avenue holder was built at that time. That is this million holder. That really is 985,000. It is practically

a million. We call it a million, just the same as we call 284,000, because it is practically that, practically 300,000. That one in Third Avenue was built by Bartlett-Hayward Company. I think there was a relief holder built in 1888 or 1889. I could not say who built that relief holder. I think it was the Continental People, but I would not say exactly.

About 1882 is the best of my recollection, they extended the office, put more meters in there, and put in a new purifier house. They built a new purifier house and built a new extension to the office. It was a new brick purifier house. But there was nothing done to the retort house or the generator house. We were making gas at that time.

Mr. Knapp was in charge of the making of the gas. I think there was a gentlemen by the name of O'Brien who kept the general books; I am not sure, but I think that is his name. I do not recollect who was the secretary of the company. I think Mr. Benedict was president, but I could not say who was secretary. I do not think Major Rossiter was secretary at that time. Mr. O'Brien kept [fol. 2006] all the books in the office. I think he is dead now. I have not seen him in a number of years. I think he continued in the employ of the company right up to the time they were taken over. I think he came down to the main office here. Mr. Knapp had charge of the laying of the mains of the Fulton Company. There were a couple of street foremen, a man by the name of Hawley, a street foreman. He was the general superintendent; he made the gas, laid the mains and did all the outside business and inside business and everything else. And then under him there was someone who had charge of the manufacturing plant. Mr. Hawley was not the superintendent of distribution. He was laying the mains in the streets. I don't remember whether this work of laying the mains in the streets was done by the company's own force or was contracted out. Mr. O'Brien was the clerk at the works. Mr. O'Brien kept accounts of the payrolls of the men at the works. It was a small works in those days and one man did it all.

In 1887 we built some new coal sheds at the works. That is the large shed there. I remember the men working on it, but I could not say who was the contractor. I thought Mr. Davidson did the mason work there. Mr. Miller was

on one of the big sheds. I thought it was about 1885. It was five or six hundred tons. There were two sheds there for that. The works were enlarged in 1887. They were practically rebuilt. We put in a new engine room and [fol. 2007] what they call a new gasogene house, new boiler house and new boilers in 1887. I thought it was '86 or '87. It was around there. They put up about four or five million. They increased the capacity then, from 1,250,000 to about four or five million, and they did that by putting in more gasogenes. They built a separate building and put in more boilers, six more. They put in two large generators with the four they moved over, making six in all and moved those over into this new building. I think it was Mr. Deeves who constructed this new building. They built another stack of benches in there, six more benches; they had seven, and when they took out the generator, they built six more benches. In this new generator house, they had six generators—no benches. They made the boilers—put in six boilers.

Their oil gas there is what they call the blue gas, with the generators, the present system. What they call gasagenes, is for making hydrogen gas and sending it over to the relief holder, where it is put through the carburetors and in the benches, enriched in those oil benches. There were no three shell machines or anything of that kind. This was in 1885 or 1886, when they made that extension. They built this new purifier house, put in four more purifiers, eight boxes. That was a new brick building. That was a building about 140 or 150 feet long. I would judge it was about 50 feet, to 60 feet wide. This new generator house was brick too. It had slate roof and iron girders across. [fol. 2008] The new generator house they built would be about 50 by 100, I should judge. They built a new exhauster room. It was of brick. That was a separate building. They took it out where they had the relief holder, and put it in place of that. I should judge that was about 40 by 50. They put in there two exhausters and two blowers. They put in new condensers and scrubbers. I think the capacity was about 2,000,000 apiece or a little over 2,500,000 apiece. They put in this extension to the building down to the dock, where the old coal shed was. They put in this extension the new scrubbers and new condensers.

The meter room was enlarged just before that, around about that time, and they put in new meters. They built two new coal sheds. They put the oil tanks up the street. They put in one relief holder, either in 1881 or 1882. Before they built this engine room, the- had to build the new relief holder because they built the new engine room in the place where the old relief holder was. 5,000,000 was the capacity of the plant, when it was taken over in 1895. They were always adding a little to it every year. They built no new buildings outside of what I have described. If they add any additions, it would be to rebuild generators or something like that. These new generators would go in the place of the old ones. I could not say the year that they bought the property. I know they owned the property, but I could not say just what year they bought the [fol. 2009] property. I know they owned the property, but I could not say just what year they bought it. The holder on Third Avenue to the best of my knowledge was constructed along about 1888. I think that was constructed in 1888, along there somewhere. It may have been 1894; I would not swear what year it was, but I remember the holder being built and watching it being built. It might be anywhere from 1888 to 1894. I couldn't tell without going down and looking up some of the old books. I could not tell, that is, without going down and talking it over with some of the old men that are down at the works. They were there the same time I was there, but there are a few of them there when that holder was built. And that is the only commercial holder that I can remember the construction of. That occurred in my time. I don't know whether the big building on DeGraw Street was built in 1895 or before or afterwards; I couldn't say. It was a blacksmith shop, carpenter shop, fitting shop. Those were all separate buildings. A brick building is there now, and we had wooden buildings before, but I couldn't swear that it was 1894 or 1895. During my time on this construction work, I couldn't say if any of the men, regular employees of the company, worked on any construction work. That was all done by outside contractors. I had nothing to do about reporting to the office the work that the men did. I do not know of anybody who could give any information about [fol. 2010] the distribution system, the number of miles of

mains that we had and services and meters. Since 1895 the plant has been changed over considerably. All of this water gas machinery that was in existence at that time, or that is, the generators and the oil retorts, has all been wiped out of existence. The boilers have all been rebuilt and larger boilers put in, and more boilers put in. And the engines have been taken out and larger engines put in. The condensers have been all rebuilt and larger condensers put in. The exhausters are all gone. The relief holder is still standing. We use that still as a relief holder. The station meters and purifiers are being used now. The purifier boxes have been rebuilt half a dozen times. But the building is still there. The tanks are all used, the same tanks have been there 40 years. And aside from that, I don't recollect any property that was there being used last year that was there in 1895 outside of the relief holder and tanks of that kind. They had in 1895 six up the street of 40,000 apiece, and they had those ten at the dock, they had No. 7 what we call the oil tank, used to be the old relief holder, and I think what we call No. 8 oil tank now, we had in 1895. The tanks hold 40,000 gallons apiece, and No. 7 oil tank holds 170,000 and I think No. 8 about 200,000.

HAMILTON

Cross:

I made no preparation for this examination. I can't tell [fol. 2011] how definitely in what year any particular piece of apparatus was constructed.

[fol. 2012] MILTON S. CROSBY

Direct:

I live at 23 First Street, Staten Island. I attended public schools there and graduated from New York University. For the last eight years with the exception of the period of the War, I was Senior Account- for certified public accounting concerns, supervising senior and so forth, and during the period of the War I was Comptroller of an airplane factory in Keyport, New Jersey. And now I am employed by Mr. Wolff. I have been assisting the Attor-

ney-General in preparati n of certain data from the books of the Brooklyn Union Gas Company.

At the request of Defendants' Counsel I made up a statement which is Defendants' Exhibit No. 147 for Identification. It purports to show the gas meters withdrawn from service from June 1st, 1923 to December 31st, 1923 inclusive as shown by book entitled "Fixed Capital Withdrawn from Service," of the Brooklyn Union Gas Company, covering that period from June 1st, 1923 to December 31st, 1923.

Mr. Cummings: I offer that in evidence.

I have simply made simply made a transcript from that book; there are no computations there. Those figures are taking the recapitulation at the last sheet of each month during that period. A transcript and not a computation of these figures actually appear in the books.

(Marked Defendant Attorney-General's Exhibit No. 147.)

Defendants' Exhibit No. 148 for identification shows the [fol. 2013] number of complaints in reference to gas meters, excluding high bills and indefinite complaints, covering the calendar year 1922 and 1923, and that was made up by me. From the monthly branch reports No. 3 of the Brooklyn Union Gas Company the last sheet shows a recapitulation of the year 1922 and 1923.

Mr. Cummings: I offer that in evidence.

There are computations in Exhibit No. 148. You see I have the originally high bills and indefinite complaints on here, but I decided to take them off, therefore, these are computations. The figures 108 does not appear in the Williamsburgh Branch for the year 1922. There is a larger amount than that. That is what I mean by computation; otherwise it is a transcript. Wherever a total appears it is a computation, but the figures making up the totals are transcripts. I have not included in here all the data with reference to complaints appearing upon the book from which I copied this data. The only personal knowledge concerning the nature of complaints which I omitted

is what is stated in the books, in the monthly report; I have no personal knowledge. The heading in the book which I erased from this exhibition is "High Bills and Indefinite." I did not make any further investigation to find out what became of these complaints, or what the result of the investigations made upon them was. This exhibit simply shows the making of complaints, by consumers and of those complaints upon the books of the plaintiff corporation.

Exhibit No. 148 for identification received in evidence as Defendants' Exhibit No. 148.

[fol. 2014] Brooklyn, New York, June 27th, 1924.

ARTHUR F. STANIFORD

Direct:

I went to work for the Metropolitan Gas Light Company in 1881. I started as office boy. I first began to work upon the general books of account within a couple of years from 1881, about 1883. I had complete charge of them before the consolidation, before 1895, for a part of the time. There was no other bookkeeper there aside from me; I was the only bookkeeper they had. Mr. Stoddard did no actual work on the books, in the writing of the books, after I commenced it, but he had more or less supervision of them; he was sort of instructing me. I looked to him for guidance. It would be safe to assume that from 1883 on I kept the books of account, the general books of account, part of the time, under the direction of Mr. Stoddard, and then part of the time on my account. The entries in the journal I obtained from the cash book and from the underlying data, and from reports of the engineer of the works.

They had a finance committee, or an executive committee, of the Board of Directors, and the Executive Committee used to check my books, the cash book and vouchers, as I remember. I think they carried a Street Main account [fol. 2015] and, for a period, a Service Account was carried. That would consist of capital charges at the works. I carried a Meter Account at that time and a Service

Account, and also a Street Main Account Purchase of furniture for the general office would not have gone into Construction Account. Just what account I cannot say, because I find no office furniture account. I presume the office furniture would have been a charge to some expense account. I think this Contraction Work account related solely to the works, and we had a Street Main Account. We enter there cost of laying new mains. Our Service Account was opened in 1872. I don't remember now what was the object of opening up the account, the special account, "Wilkinson Process." It may have been for the purpose of accumulating the costs of the Wilkinson Process. All of the debits here were intended to show the cost of the Wilkinson Process, I should infer. I notice that that was closed out to Construction Account, and a natural time existed after the last entry up until the time I made my last transfer, because we would not have transferred an account of that kind probably until the end of the year, and that was transferred December 31st of the same year as the last entry, and then it was transferred over into Construction. During my time we [fol. 2016] also constructed what is known as Holder No. 3. That is a holder that is located on 12th Street near Second Avenue. I do not recollect its capacity. I have certain items marked in the Construction Account as "To Holder No. 3" opposite each one, and those are intended to relate to the cost of that particular holder. We were trying to accumulate the costs which pertained to that specific holder instead of opening up a separate account for that, for at least a portion of the costs. I don't know whether it is all the costs or a portion. I doubt if it is, because I think there were many items probably that were not charged to that holder. Probably there were certain items that they did not specify as applying to Holder No. 3, but I would not state that positively. I know that applied to Holder No. 3, I charged them up that way. There are no credits made to the Construction Account for withdrawals for Holder No. 3; nothing to speak of. It also appears here, that after 1895 in the books of the Brooklyn Union Company, there were no withdrawals to speak of; that is, no credits for withdrawals. I don't remember they they had

any particular practice. I think, as a matter of fact, the books do not show many withdrawals. Part of it is in my handwriting. The handwriting not mine is Mr. Stoddard's. I was a pupil of his. I entered in here "Cash." This [fol. 2017] is cash received, on the left-hand side of the book. Here is where we received cash (indicating). We received cash for service pipes amounting to $473.55 in May, 1892. That was money collected from proposed customers, customers and builders for running service pipes from the mains into the houses, and that item contained throughout a large part of the period covered by the book, until we get over to 1893, and from there on it has but very few after that. It is a fact that for a long period of years, up to 1893, we were charging the stockholders for the installation of the services. I never took an inventory and never heard of one being taken; I mean of the mains and services and meters. I never saw it at any time. Figures were made up from statements. The Brooklyn Union figures were made up from statements handed to me, but whether there was an inventory taken or not, I don't know. I did make up an exhibit to present to the Commission of Gas & Electricity in 1905, ten years after the purchase. There are several here; I do not remember all of these statements. In 1905 I had knowledge of the size and of the number of meters that were then on the district, but we had the same data in 1895 as they had. I don't know that that was made from the inventory. I think it was made from the record. We had the record in 1895, the same as they had here. Whether that was a carbon [fol. 2018] of it, I don't know. I had a record of the sizes, as well as the number of meters taken over from the different companies. As to sizes I do not remember. Evidently we had that in 1905 if this is a correct copy. I presume it is a correct copy of what was introduced. Ten years afterward, after the consolidation, I knew the sizes as well as the number of meters on the district, but I don't think that that was the result of an inventory. I think very likely we had, and my mind goes back now that we did make counts at some time. I don't remember just when it was, whether it was 1895, or just when that was made, but I have a recollection that a count was made some time

after 1895. They also called upon me, evidently at that time, to set forth the price of cast iron pipe, according to my purchase, and the cost of laying the different size mains covering a period of five years as shown by the records of my company. This was an inquiry made by the Commissioners of Gas and Electricity for my company to furnish them certain information. As I remember it, they sent out advance notice of what they would require, and these were the answers, sort of a questionnaire to the company to facilitate the matter when we got on the stand. I prepared this, it was made under my supervision, showing the cost of mains for the years 1901, 1902, 3, 4 and 5; and then also the cost of laying the mains. I think very [fol. 2019] likely it was during that period. The information contained in Exhibit No. 149 for identification is correct. I said to the best of my knowledge and belief, at that time. I don't know anything about the paper. I cannot state that that was the paper that was introduced in evidence. It is a typewritten memorandum of answers, and I haven't any reason to dispute it.

I said that in this book marked No. 57 of the Executive Committee, that handwriting was not mine. It is Mr. Stoddard's. It could not have been mine, anyway, because the last entry is in 1876, and this book marked 58, the first part of that book is in Mr. Stoddard's handwriting, and the latter part mine. I could not tell unless I looked at the index to what account our horses and wagons were charged. (Examining index.) Evidently to expense account. I don't know a thing by which I can identify Defendant's Exhibit 150 for identification. I can't remember those figures, and there is nothing in the sheet of paper to indicate anything that would locate it in my mind. I don't know whether it is or not. I could not remember whether we gave them such information or not. It is twenty years ago. They asked a great many questions, and we gave them many answers, but I don't know whether that is one or not. I could not tell in whose handwriting it is. It is not mine. I don't [fol. 2020] remember whether we claimed some value upon our holders or not when we were asked to supply the information to the Commission of Gas & Electricity. I do not remember at any time during my connection with the

Company, that any valuation was made by the Company of holders for any purpose.

Cross-examination:

We charged the ordinary consumer $10.00 for services. That was a regular charge, unless there was some improved pavement, and I think in that case we made an extra charge for it, but we charged the ordinary consumer $10 for the service, with a possible charge for pavement where it existed. In the case of builders, they were put in at cost, so that we made that distinction, one charge, irrespective of cost, and the other charged according to cost. With reference to the account entitled "Wilkinson Process," concerning which I have been questioned, I will state that in my opinion that does not contain the whole cost of the installation of that apparatus.

Redirect examination:

We made this charge to the consumers for service pipe from the time that I went with the company until—I think it was 1893 we said that it ceased—up to that time it was continuous, as far as I can remember, up to 1893.

As to the Wilkinson Process, my work was done correctly, as I said before, and I made my record on the state-[fol. 2021] ments made to me by others. I don't believe the books showed the whole cost of the work, any more than they did in reference to what I was asked about the way we charge horses and so forth; they didn't go to the proper accounts. They kept the books as pretty nearly all books were kept fifty or sixty or seventy-five years or one hundred years ago. Those books were kept, up to 1895, the way they had probably been kept for fifty years, and the sole purpose of opening up that account, "Wilkinson Process" was to accumulate the costs so that we would know the costs of the Wilkinson Process; I presume that was the intention. Any effort there to show the full cost would really be abortive.

That is the main thing I wanted to bring out. There have been great advances made in accounting, the same as in anything else. The methods were not the same in those days as they are today. By that I mean the allocation of

various expenditures to capital accounts and to expense accounts, almost entirely. The very answer to Mr. Cummings' question, what were horses charged to it is an indication of it. We certainly should have had a horse account, but evidently we did not. I cannot tell now what is covered by the Construction Account and what is not, except my recollection is, to the best of my knowledge and belief, that it covers the works' expenditure.

[fol. 2022] ROBERT W. BUSH

Direct:

I came with the Metropolitan Gas Light Company in 1893. At that time there was a generator house. It was formerly a retort house. The building was built of brick, and to the top of the brick walls I should say it was about twenty-four feet. Then there was a trussed roof, an iron trussed roof and that was covered with slate. It was a very well-built building. It was about 175 or 180 feet long and about 64 or 65 feet in width. They had not raised the building at all in order to put in the generators, but the north end of the building was separated by a partition wall—a brick wall, and that made a room which would be somewhere around 53 feet or something like that at the south end of the building, and then there was another room built—that was at the north end of the building that I spoke about. And at the south end there was another division wall, and right in between was the bench house, as we called it, which was occupied by the benches and retorts. They had benches and they had oil retorts. There were seven benches of 6's, I think, and they were all oil retorts. They made the blue gas in the generators. The generators were steel shell and lined with fire brick with no carburetor and super-heater [fol. 2023] attached. It was a part of the Wilkinson Process. There were oil pumps and oil meters and there were two so-called illuminators. The illuminators were used at the time naphtha was being used and they were constructed in shell formation with steam coils running along these shells, and the gas flowed in zig-zag fashion over the steel shells which had been heated and the naphtha was va-

porized, and then that naphtha gas was mixed with the other gas. The generators were at the north end of the house. There were two generators. In the north room also were two boilers. They were also fitted up with the boiler feed pumps and the feed water system. They were boilers of 200 horsepower each in that building. They were the Haselton patent boiler. The boiler room contained other pumps for other purposes, for the elevators and things of that sort, and of course all the necessary connections and piping. We had three pumps for the boilers themselves and we had a pump for getting the condensed water back, heating the feed water, and we had tar pumps, I think, also there. I think that room was about 30 to 33 feet long, lengthwise; that is, north and south, and of course it was the same width as the rest of the building, and that end of the building was higher, in order to accommodate the generators. That end was quite a little higher than the roof [fol. 2024] of the other part of the building. For instance, if the main building was about twenty-four feet, I think it was somewhere around there, the other part would probably be, say ten feet more. We had a room on the south of the retort house or the bench house. It is my impression that was about the same width as the one at the north end. It was slightly different, I think it was a little shorter in the north and south dimensions. My recollection is that the roof, like the generator room, was also very slightly raised, but not very much. In the room to the south of the bench house were the exhausters and the blowers and condensers and more pumps. We had two exhausters. They were of the McKenzie type, which was then the best type of exhauster, apparently. We had two blowers, Root blowers, made by the Root Company. I can't recollect in cubic feet the capacity of our exhausters and blowers, but one exhauster was capable of handling about the maximum quantity, and also the one blower. The capacity of the plant at that time, was not quite as much in 1893 as in November, 1895. I think probably 500,000 less than in 1895. In 1895 it had a capacity of 2,000,000 cubic feet today. In 1893 it had a capacity of 1,500,000 probably. That is as I recollect it. We had four condensers in the room to the south end of the retort house or generator [fol. 2025] house, whichever you choose to call it. They

were tubular condensers, that is a general name, and they were all of similar character. They were somewhere around 22 feet, I think, total height, about 9 feet long. There was a third partition which extended between the engine room and the retort house proper, and that is the bench house, and that accommodated two more boilers. Those boilers were as a reserve and were used from time to time. They had a capacity of somewhere around 60 horsepower each, I think. That boiler room was separated by a brick partition from the engine room. The engine room was at the south end of the main building. The exhausters and the condensers and the blowers occupied the south end of the main building. The benches were between the two ends. Going south from the bench room where the benches were, there was a blanket wall. Then we come to this small room which I have described, in which there were two more boilers. The engines and exhausters were in the same room and the blowers of course were direct connected to an engine. One engine as I recall it was a Greenfield, it was an upright engine, and the second engine was about the same size, New York Safety. We had two engines for the exhausters and then we had the New York Safety Engines direct connected to the blower. We had four engines in all. We had accessory apparatus [fol. 2026] in there. That is we had special governors for those engines, and they were rigged up, as I remember, so that we could run a constant pressure on our hydraulic mains and thereby get better results from our retorts. We had another pump in there too. That was a pump which was used in connection with the small boilers. That is all I recall at the moment. That building is still standing. It is not standing as it was in 1895; we have raised it. It was changed to accommodate the Williamson sets and waste heat boilers at the time the plant was rebuilt, and that was a steel construction, above the brick. The steel supports went right down to the ground and foundations there.

We also had a turbine house. That was brick with a slate roof and steel trusses. The office and the purifying house and the oxide room occupied one building but divided by brick walls. I remember that in this way, that the property is a 200-foot lot, and about 8 or 10 feet on the north

end was not occupied by this building. In other words, that would bring it about 190 feet. That building was between 30 and 35 feet—32 or 33 feet. The office at the works was in the south end of the building. The next room was occupied by the purifiers, and then on the north end of it was the oxide room. The office I think was about 20 feet and the other end of the building was probably about 25 [fol. 2027] feet. It was a little more. The office building also contained meters, station meters. We had three meters. They had a combined capacity of 2,000,000 daily. They would make a little more than that. That is what they were made for. And in the oxide room we kept our oxide for our purifying boxes.

They also had buildings for tools. This was used more for a storage place for tools and also for supplies. That was a wooden building. I should say it was about 15 or 20 by about 18. There was another floor above in the office building. That was built up at the south end. The entire space was raised so that that was a two-floor building, and of course, there was also the governor house. That was brick, slate roof. Then the basement, concrete basement. In the basement there were the connections in and out of the holders through the governor. The holders were connected to the governors at that point and then they led from that. The generator house was about 15 or 20 feet, long and wide. In there we had the governors, all the valves for controlling the gas through the holders and out on the district. We did not have a meter repair shop. We had a very sizable building which was situated at the north end of the property and midway between the two long brick buildings which have been described; that is, the retort house and the purifying house. That building was [fol. 2028] something like 80 feet by 40, as I recollect it. I am speaking approximately on these things. That was used for a fitter's shop and blacksmith's shop, and when I came there, there were also horses, and it was used as a stable. That was a wooden building and that is not standing now. The purifying house is still standing. It has been changed entirely in the way it is used. The present purifying house, of which the works has two, are situated in other locations. Where the purifying house was in 1923—it is an entirely different place from what it was when

I came there. That building is out. The purifiers in other words have been taken out and the building has been utilized and is utilized as a meter room. It has been rebuilt not only up and down but out. It has been widened and added to, lengthened. The room which I described at the north end of the purifying house, the oxide room, is now a machine shop. There was a carpenter shop upstairs. We had a coal shed, of course. That was a wooden coal shed. That was somewhere around 90 feet in length, and it was just about twice in width of what the present coal shed is. I think the present coal-shed is somewhere around 50 feet wide, something like that. There are two elevators with shafts, elevated brick shafts for getting up the coal to the generators. And then we had two small buildings; they were just the size of an elevator, and that would be about [fol. 2029] ten or twelve feet square, and there were two of those. They were adjoining the generator house. They took their coal up in the elevator and put it right on the floor.

Of course, they had the holders. We had a relief holder. We had just built a relief holder, on account of the Wilkinson process. That was a holder that was built just before I came there. That was the only relief holder there was on the works at that time, and that had a capacity of about 50,000 feet. We had three commercial holders at the Works. That is all that are there now on that side of the property. We haven't any commercial holders on that property which I have described. There was a holder built later on the opposite side of the street, between 12th and 13th Streets and that was after 1895. I was not there when the relief holder was built; the holder had just been built. I think the work was completed and in operation early in the year of 1893, before I came there. I don't know anything about who did the work or whether it was done by contract. I don't know a thing about it, and never heard. I do not think there is a man down there who could tell us much about it. I don't know of anybody there at the company working there when I came there. The last man that was [fol. 2030] at the Metropolitan Works that I remember was an old fellow named Egan, and he died about a month ago, Mike Egan. I haven't told very much about the oil tanks. We had on the dock property or dock end of the works—

it was a little nearer the north end than it was the—it was about half way between, it was situated near the dock, and adjoined the coal shed. There were three oil tanks. Two of those were used when I was there for the storage of gas oil, and one was a tar tank. When I was there they were used as a tar tank and gas oil tank. One tank was a 30-foot tank, 30 feet in diameter and 25 feet high, and the larger tank was 40 feet diameter and 25 feet high. That is two; and the small tank I do not recollect the dimensions, but I think it was somewhere around 50,000 gallons. I do not just remember exactly. The holders were built before my time, but they had the name of the maker on them, so I knew who built them. Rowland, Thomas F. Rowland. The 50,000 foot relief holder was retired. I think that was shortly after consolidation, and a relief holder of a little *of* 100,000 feet put in its place, so that the holder that you see there now was built by Bartlett-Hayward. I don't know what became of the old relief holder, except that it was retired from service. There was a lot of small equipment and things which I do not recollect. I have given the major items, but of course I am not taking [fol. 2031] into consideration all the connections and the tremendous amount of valves and all that sort of thing.

I had entire charge of the works, and I made a report to the office of the quantity of materials used. The construction work for the first several years that I was there, did not amount to very much because it was practically a new works. After consolidation we added some more apparatus. There was very little construction work done in those early days, that is, from the period of 1895 back to 1893. I visited the Peoples Plant. I can't give the date, but when I went around to visit other works. When I first came here from Boston, I went around and looked at the plants. I did not do very much looking around for the first few months, though; I had enough to attend to. The Peoples plant was not operating when I first saw it. It laid there idle. As you went toward the Williamsburgh Works from the Nassau, the Peoples was a little nearer to the Williamsburgh Works on Kent Avenue on the water side, and that was an old coal-gas plant. I watched around there and there wasn't very much to see. They had buildings there. They were not in very good repair. There were some brick

buildings, but I did not pay very much attention to the Peo-
[fol. 2032] ples Works. I did go in the retort house. I don't remember how many benches they had there, because it was a works that was not running, had not been running for a long time and was in a very dilapidated condition, but the remains of the works were there. I did not attempt to tell you about the capacity of the works as I saw it, because it did not interest me very much. There was nobody to see and nobody I could get any information from, and I let it drop.

[fol. 2033] R. C. Lewis

Direct:

I am superintendent of the Shop Distribution Department, and I have in my charge the automobiles. The Company has approximately 150 automobiles. There is more than one garage. They are located at Third Avenue and Third Street; Atlantic Avenue and Ashford Street; Third Avenue and Degraw Street, that is mostly a repair shop; and at Plymouth Street. We keep most of the cars at Third Avenue and Third Street. I cannot say exactly, but I should think between ninety and—well, approximately ninety are kept there. The records of the use of the automobiles are not kept at Third Avenue and Third Street. They are kept at my office on Remsen Street. Our system of keeping our records was changed in 1924. As far as the use of the cars goes, there has been no change. That is, we keep the same records of the use in 1924 as we did in 1923. For instance, if Mr. White wanted a car, he would ask us to assign a car to him, and, if a car was available, we would do so. He does not ask me personally, but someone in my office, and then I send him a car from some one of these garages. Then he takes the car and uses it. The record of the use of that particular car would show where the car was used, and it would show the hours that he used
[fol. 2034] it. Our records just show the person; that is, the general officer that uses the car, so that a person can go to our records in our office and get complete detail as to the number of cars used and when they were used by the general officers of the company. Just suppose Mr. White

drives out to the Newtown Company's plant; that would not be divided in my records. That the car was assigned to Mr. White is all that we would have; that is as far as we go. That was true in 1923 as well as 1924. In 1924 we find out what the car was used for and charge it to that account. In 1923 all cars were charged to stable expense, and that is an operating expense. Suppose they took a car to deliver some gas meters out to the Woodhaven Gas Light Company in 1924, that would be charged to the handling of meters and to whatever company they were handling meters for. That is, we would keep a separate account, handling meters for the Woodhaven Gas Light Company, and the use of that car would be charged to that particular company. That is, in 1924. In 1923, I don't believe that expense was charged, outside of stable expense. What I have already told in relation to meters applies to gas appliances, to the delivery of gas appliances as well. Suppose they delivered gas appliances to the Woodhaven Gas Light Company in 1924—that is a little different, and I cannot be sure. [fol. 2035] There is only one truck on that work, and I am not exactly sure about that. In 1923 it was all charged to operating. I am not attempting to testify as to what Mr. Payne puts in his books of account; I don't know that. I am simply testifying as to the system of reports by me to the auditor. What happens after it gets to the auditor, I don't know. In 1924 I made some divisions, some notations as to the use of the cars, which I did not do in 1923 in my reports. For gasoline and oil and repairs there has been no change. The expense of each car is charged to that car, whether it be gas, oil or repairs. It is charged to that particular car.

I did not make any entries in that Fixed Capital Account. I report the purpose for which the car has been used. We have approximately 150 chauffeurs. As a rule, a chauffeur is assigned to a car, and he has to go wherever that car goes, irrespective of the nature of the service. That is, one day he might carry Mr. White, and the next day he might be carrying the Street Department men. His work or his salary follows the car. It was not true in 1923. In 1923 the labor was always classified by accounts. The cars were all charged to stable expense. I made a report as to how the chauffeurs devoted their time. If one of them

was taking a general officer somewhere, running a car for a [fol. 2036] general officer, I so reported in 1923. The work he was on would be reported, and the account that he worked under, but not the car in 1923. Now we include them both. In that work alone, we have a force of about two or three keeping the records. We have, I should estimate about 25 all told, employed at the different garages, aside from the chauffeurs. We maintain our own repair shop at Third Street and Degraw Street, and if any repair is made on a car, it is charged to that particular car as made. We have in the repair shop out there approximately twenty men. We compute the cost of a repair in the labor and material expended on it. The labor of that one man that works on it, assuming that one man makes the repair. We have a foreman of the shop there. His time is proportioned to all cars. I cannot answer how the insurance on the building is handled, nor how the repairs on the building are handled. The man at the various garages make out a report. There is someone there who makes out a report to me, showing the use to which the cars are put. We have a clerk there. The men who wash the cars; their time is not charged to the cars they wash. It is proportioned. That is, proportioned over the total number of cars. That was true also in 1923. We report to the auditor in more detail [fol. 2037] the accounts under which the cars were used. The auditor, Mr. Payne, gave orders to do that. Those records come to me, the reports of the various men under me, come to my office. I get a report showing what particular car is used, and what that particular car is used for each day. There are a great many other things, but I think that is all that applies here. I get also a report showing what repairs are made on the cars, and the number of gallons of gasoline used, and oil. We tabulate the time used through the month on the account, on the same work; also the cost of cars in that class, and forward it to the auditor—a certain amount of work on such and such work, and a certain amount of money for that time. I am reasonably familiar with those reports as they leave my hands. In 1924 we had a certain number of cars assigned to Construction, and we likewise had a certain number of cars assigned to Construction for 1923. I could not tell whether the cars were used to a greater extent in 1923 for

Construction Work than they have been in 1924. It might be possible to tell by reference to my records. I wouldn't want to say. There is more detail in 1924 than there was in 1923. Whether they can be compared, I am not sure. Any division between the different accounts, such as Fixed Capital accounts and Operating accounts and parent company [fol. 2038] account and subsidiary accounts, is done by the auditor, based upon the reports which I render. I do not make those divisions, but I just simply report to him the basis on which the car has been used, the purposes for which it has been used.

[fol. 2039] The Brooklyn Union Gas Company

Brooklyn, New York, July 2, 1924.

FRANK P. SAFFER

Direct:

I live in Staten Island and am a graduate of the New York University also a graduate of the School of Commerce, Accounts and Finance of New York University, 1911, and shortly thereafter went with William F. Weiss & Company, New York, public accountants. I went there in 1914 and was on the staff of William F. Weiss & Company for a period of about three years. During the time that I was with William F. Weiss & Company—they were Certified Public Accountants. The nature of my work when I was with them was general accounting practice, a considerable part of which was cost accounting in manufacturing organizations, several realty development propositions. And after I left them I went with another firm of certified public accountants, Townsend, Dix & Pogson, New York. When I was with them the nature of my duties was also general public accounting work and cost work of various kinds, installation of several cost systems and cost work principally in manufacturing concerns. After leaving them I went with Mr. Mark Wolff. Since I have been with Mr. Wolff, I have worked on the books of the Brooklyn Union Gas Company and the Consolidated Gas Company. I examined and analyzed the Construction Account of the Williamsburgh Gas Light Company for a period. I examined the

books and analyzed them, from January 1st, 1885, to November 4th, 1895. That was one of the companies whose property was taken over in 1895 by the Brooklyn Union Gas Company.

I noted in my examination the various accounts that they were carrying.

[fol. 2040] They were carrying in addition to the Construction Account, Services Account and Meters Account separately. They were also carrying a Real Estate Account.

In my analysis of the Construction Account, I found debits for Engineering and Law Expenses, Salaries, labor items. My attention was directed to certain accounts. There was a debit balance in Construction Account on January 1st, 1885, of $1,709,847.90. During the year 1885 there were charged various items, such as fittings, connections, lead, cast iron pipe, a prover, one patent clock; labor and various other items aggregating net $27,010.71. All of the charges during that year aggregate that amount. Of course there were a great many others.

This aggregate net charge of $27,010.71 was charged off at the end of the year to Profit & Loss. The amount on the ledger shows all the details relating to the various detailed items. The ledger does not contain detail; that is supported by the journal.

In those accounts that relate to cast iron pipe, the weights, sizes and prices of pipe are given in the journal; the amount of lead and the price per pound is shown, items such as sleeves, crosses, bends, and so forth, are not given in detail as to quantities. In some instances they state the number of pounds and the price per pound. I find entered in the Construction Account many small items. There is a charge of $7.83 for castings; a charge of $1.40, with no detail as to what that is for; that is a cash book item. There is another one of $3.00; $1.25 for Sundry castings; 8. for 10 pounds of lime; $4. for 50 pounds of lime, and various [fol. 2041] other small items, smaller than $10, various cash disbursements. That the amounts charged to the Construction Account during each year were charged off to Profit & Loss at the end of the year, less a few small credits there may have been to the account. My examination did not

show any credits made to that account for withdraws of any property.

I have not the detail before me what the credits were for and I cannot state that. They are small in amount. The largest credit that I find in that period is $1,136.15, and there is no indication on the books showing why that credit was made or what it was for. I did not find any of the credits entered there stated as pipe. The books did not indicate what the credits were for. There is an exception to that. A credit to Construction of $1,081.10 through the cash book, marked "Sale of Pipe," the others are not stated. The date of that entry of that exception is December 31st, 1892.

I found that certain debits had been marked "Holder No. 3" or "Holder No. 4," or "Governor or Meter House." There is an entry, January 13th, 1885, for sleeves, bends, and so forth $452.49, marked "Holder No. 3 and on the same date, for fittings and connections, $1,598.47, "Holder No. 3." I also found payments beginning May 15th, 1884, to T. F. Rowland, aggregating $73,000. I don't recollect whether they were marked at all. That is I don't recollect whether there were more to Rowland or not. I had reference to the minute books of the Williamsburgh Gas Light Company.

[fol. 2042] In the meeting of April 7, 1884, the officers of the Company were empowered to enter into a contract with Thomas F. Rowland for the erection of a gas holder and tank for same, in accordance with proposals. I did not find the proposals, or a copy of the proposals anywhere. Thereafter I found certain payments made to Thomas F. Rowland.

I do not recollect that there was any specific reference to Holder No. 4 on the ledger. I found in the minute books, along about in 1888, an authorization for the construction of that particular holder and the tank. It does not refer to holder No. 4, in the minute books; it refers to a holder. The date of the meeting to which I refer is, March 9, 1888. I have a copy of the resolution here. The substance of it is, the president reported having made contracts with William Henry White to construct tank for new gas holder for $42,169, and with the Logan Iron Works for the sum of $59,700; total $101,869.

I find a payment made to Logan Iron Works, $59,700 and to William H. White, $42,469. Subsequent to the date of that meeting, I do not recollect that there is any definite reference on the ledger showing what those payments were for. I do not recollect definitely whether there are any entries in journals or cash books supporting these ledger entries or whether there were any journal or cash book entries supporting the ledger account. I mean by supporting them, whether they identified them. That is what I had in [fol. 2043] mind. These entries on the ledger showed payments. They are posted from the books of original entry. I found the cash book containing those original entries from which the ledger account was posted. I do not recollect whether those cash book entries identified the payments definitely. I found two payments made relative to meter house and governor house which were marked as New Meter House and Governor House, as they applied. I found those entries in the Construction Account.

The detail or just over the period: September 21, 1889, $1,000 to N. L. Langridge. October 5, 1889, same party, $1,000. November 9, S. M. Weeks, $500. November 15, Langridge, $1,000. December 7, S. M. Weeks, $850. December 28, same party, $400. January 15, 1890, C. L. Rowland, $533.45. March 1st, Langridge, $572.70. March 1, Smith & Sayre Manufacturing Co., $2,665.50. April 26th, Farrell, Logan & Company, $193.88. April 26th, S. M. Weeks, $200.

My present recollection is that there was some indication, marked on the ledger, which indicated that those payments were made in reference to this particular meter house or governor house. Those payments aggregated $8,915.53. My opinion is that the Construction Account was carefully kept.

In my opinion the debits to the Construction Account, after the restoration of the amount which had been charged off to Profit & Loss, would show substantially the costs charged in this Construction Account of the various buildings, and so on of the items set forth in the account.

[fol. 2044] FRANK P. SAFFER

Cross:

Before I started my examination of the books of the Brooklyn Union Company and the Consolidated Company I did not have personal experience with the books of a public service corporation. I had studied the Uniform System of Account in book form. I did not go beyond the system that was in effect at that time, so that until I examined these books of what we call the vendor companies I had not looked into old public service corporation books.

When I examined the vendor books, the Uniform System of Accounts, was in effect at the time that those books were written up. I do not know the date when the Uniform system of Accounts was adopted and I do not know what system of accounting prevailed prior to that time in public utilities. I have only examined the books of one vendor company prior to that time; The Williamsburgh.

I made a casual inspection of the other vendor companies besides Williamsburg; that is, looked through the ledgers and journals and cash books to see if they had been kept in about the same way. I examined the books of other companies which were kept the same period. Williamsburgh Company. That is, I inspected the books of the other companies for the same period that I examined the books of the Williamsburgh Company,—looked through them to see if the systems in the difference companies were the same at that time. That was all I did so far as the other companies were concerned. I started in 1885 with [fol. 2045] the Williamsburgh Company, therefore I started with an opening entry and all my work is built upon an opening entry.

In this Construction Account the sheets that I am referring to are on Defendants' Exhibit 63 for Identification and 64 for identification on my direct testimony.

My initials are F. P. S. Ten of the sheets are labeled with the initials F. J. D., that means they were made up by Mr. F. J. Donnelly. He is employed by Mr. Wolff.

I found some detail in the journal of this company during this period of the Williamsburgh Company. I examined Journal G. I do not remember seeing a lead pencil entry of $5,195.74, without any detail posted to the ledger

and appearing on page 447 of Journal G. I do not recall that on page 447 of Journal G, December 12th, 1890, Sheet 12, $5,195.74 appeared in pencil scratched across the page without any detail. That is on one of the sheets of the exhibit for identification which is marked, "F. J. D.". I did not look at the entries which were transcribed by Mr. Donnelly. I am not prepared to testify that any of the entries transcribed by Mr. Donnelly appear on the ledger. Of my own personal knowledge, I am quite sure there were not included any items transcribed by Mr. Donnelly. That is, the various things that I read into the record I am quite sure were from sheets transcribed by me. There may have been items transcribed from the ledger by Mr. Donnelly, but I have no recollection of any.

Where the books which I examined showed entries relat-[fol. 2046] ing to cast iron pipe, it is disclosed that not all of those prices included freight or cartage. Some did show the amount of freight or cartage added to the bill.

On these sheets I didn't take the number, I find only one notation of freight on an invoice for cast iron pipe, February 12th, 1895, is the date. I am not prepared to say how many more than one are in the books. I have no recollection of any other. I recall giving a figure of $27,010.71, which was charged off at the end of one year to Profit & Loss, also that prior to that answer I had enumerated fittings and connections and lead and cast iron pipe and a prover, and so forth. I think that statement "the account shows all the detail relating to the various items," was corrected later on by saying that the journal showed most of the detail. I cannot tell without vouchers whether all the detail is in the journals. I did not read off a number of items or charges with reference to a meter house and a governor house. I had a little table I prepared myself of the meter house and governor house, nor from these schedules marked for identification, from the books.

I have on my schedule other than the names of the persons to whom the amounts were paid only the dates, so that here at this present time I have only the names of certain people and the dates and the amounts paid them.

I don't know Mr. Weeks. Nothing that I saw in the books discloses his identity. That applies to all these other men and the company whose name i read. The largest

[fol. 2047] credit to the Construction Account during the period with which I was familiar was $1,136.15. That I read from Mr. Donnelly's schedule.

I am an accountant and accustomed to audit books and make reports upon audits. As an accountant I cannot say that the books of the Williamsburgh Company that I have examined, show the cost of all of the property installed during that period because I made no analysis or no audit or examination of all the property of the Williamsburgh Company.

I examined the Construction Account. I made no examination of the Real Estate Account or the Meter Account. I think that is the only other capital account that the ledger showed, that I did not go into. I did not examine the operating accounts. Not having examined them, of course I am not prepared to state that in them there are not entries which should be in the capital accounts. There may be considerable in the operating account.

As an accountant I would say that the Construction Account shows substantially the cost of the items mentioned in it. I cannot say that there is any cost of anything else in the Construction Account, in any account that I have not examined. As an accountant, I am not prepared to swear that in my opinion the Construction Account shows the full cost even of the items of property mentioned in it.

[fol. 2048] FRANK P. SAFFER

Redirect:

I should say that from the care with which the account was kept, and so on, that it undoubtedly does show substantially the major costs and a good many of what might be called the smaller costs, but I don't believe there is anybody in the world that could testify without having a whole lot more time than I had, to testify that every item is in the books, and I would be willing to express an opinion that those items in the Construction Account are substantially the cost of the property.

Mr. Donnelly worked alongside of me on these sheets and I directed him what to do. He made certain extracts from the records. In other words, he finished something that I was called away from.

The following notation showed there had been a monthly checking of the vouchers by the Finance Committee of the Company for a certain period.

"The Committee on Accounts reported at all monthly meetings from 1878 to 1895 that they had examined the books at office and works and found them correct." A Committee checked up all the vouchers with the obligations. In the minute books other than what I have read, I find in support of that statement, a statement that at each monthly meeting the Committee on Accounts had examined the accounts and found them correct, and that is the statement, each minute, each month, that I base my testimony upon.

[fol. 2049] FRANK P. SAFFER

Recross:

At the end of the year additions to the Construction Account were written off to Profit & Loss. They did that every year. I testified that the minute — showed that this Committee reported that the books were correctly kept and that the minute book contains that statement, that the Committee reported the books correct. I don't know whether it is up to me to agree with them or disagree with them. I don't know in 1885, what the accounting procedure was, whether or not it was considered proper at that time, and that particular method was taken into consideration when the Committee on Accounts o. k'd the books as being correct. I did not express any opinion as to bookkeeping methods, unless I consider the method under which the books were kept, I cannot very well state that they reflect anything.

These items of expense for the Construction Account were what I understood, as a professional accountant, to be additions to the invested capital. In charging those items there to Profit & Loss, the effect was to charge them into the Expense Account. As a professional accountant, I do not regard it as proper bookkeeping to charge into the Expense Account items of that character. It is not modern anyway. I am not sufficiently familiar with the methods of bookkeeping in vogue at the time these entries were made to know whether or not that was the prevailing custom.

[fol. 2050] BENJAMIN COHEN

Direct:

I live in White Plains and am a member of a firm of accountants here in the City. The firm name is, Kiebel, Cohen & Malinoff and they have offices at 25 West 43rd. Street. I have been an accountant for the Public Service Commission for the First District of New York. I entered the Public Service Commission as the result of a competitive examination as accountant in the year 1918, in the month of March, and remained with the Commission until November, 1923.

When I entered the Public Service Commission, it was then called the Public Service Commission for the First District, which had charge of all the companies, all the public utilities under its jurisdiction of the companies outside of the City of New York. We received reports annually, sometimes quarterly, sometimes semi-annually from these utilities, and we examined them—that is, I examined them, criticized companies' methods and practices in reporting or methods of keeping the books, framed letters of criticism, went to the companies' books to check back items in the reports, and so on. That was in the first year.

Then the following year, sometime in 1920, the rate cases, involving the constitutionality of the 80-cent Gas Law came up, and I was assigned as assistant to the gentleman who was in charge of the audit of the Consolidated Gas Company. I was with him for about six or seven months, and—well, at any rate, in that case I made up statements which [fol. 2051] were afterwards introduced in evidence, testified, helped counsel in their general conduct of the case, and helped with the brief, and so on. I worked not only on the Consolidated case, but in the New York and Queens case. I have charge of the audit of the New York and Queens; the New York and Richmond, the Central Union; the Northern Union; the Standard Gas Light Company; the Mutual Gas Light Company, and the New Amsterdam and East River Gas Light Company for the Public Service Commission, the gentleman who had charge prior to that time having resigned. In those cases too—that is, not all, but in some of those cases I testified to exhibits that I prepared.

The Commission was reorganized in 1921 and the Public Service Commission was created. The Transit Commission

took charge of the street railway companies, was given jurisdiction of the street railway companies in New York City. Then there was created a Public Service Commission for the entire state, with offices in New York. The Chief Accountant's office was in New York and I was made assistant to the Chief Accountant at that time. Then Mr. Webber was chief accountant. When he resigned in 1922 I had charge of the accounting work in the New York office.

I have worked on the books and on the reports of practically all the companies here in the Metropolitan District during my experience with the Commission. That is, most of them with the exception, probably of the small companies on Long Island that I didn't happen to work on. Since [fol. 2052] I resigned from the Commission, I have been working with the Attorney General on these cases and have done some special work on the Brooklyn Union Gas Company's books, the Consolidated and also on the Kings County Lighting Company's books.

Since the severance of my connection with the Public Service Commission I have established myself as an accountant and auditor specializing in Public Utility Work.

I haven't had time to do much work for various public utilities. I have only had time to take on one case, that is the case of the village of Ossining and village of Pleasantville. I have been pretty much with this case. I have been kept pretty busy, in other words. I have made some computations of the allocation of certain expenses between the Brooklyn Union Gas Company and the subsidiary companies.

I have had conferences with Mr. Blanchfield and I have also gone over his work sheet in making up his report to the President as to what the allocation should be to the subsidiaries for the gas that they were to buy, or bought in the year 1923. In conferences he has given me copies of his work sheets. It wasn't necessary to give him copies because I was able to get the same figures myself. I have read Mr. Blanchfield's testimony and his cross-examination. The method that I pursued in making the allocation; I first got the actual sales to consumers for each company; that is, the Brooklyn Union Gas Company and each one of the subsidiaries for the year 1923; then I figured out the

ratio of the percentage which the sales of the subsidiaries [fol. 2053] bore to the combined sales of the Brooklyn Union Gas Company and subsidiaries. The ratio was 22,414 per cent. The expenses which should be shared by the Brooklyn Union Gas Company and all of the subsidiaries, I figured that the subsidiaries should share 22,414 per cent. After that I have taken the sales of the Brooklyn Union Gas Company separately and the sales of the Fourth Ward companies, and obtained a percentage which the sales of the Fourth Ward companies bore to the sales of the Brooklyn Union Gas Company, plus the Fourth Ward companies. That ratio was 9.007 per cent. I multiplied the expenses which should be shared by the Brooklyn Union Gas Company and the Fourth Ward companies by this 9 per cent, less the expenses applicable to the Fourth Ward companies only. I used the actual expenses of the Brooklyn Union Gas Company as shown by its books for the year 1923. That figure is composed of approximately fifty accounts and I wasn't interested in the total at all. I have it as to separate accounts. I have the general miscellaneous expenses (handing papers to counsel).

In arriving at my percentages I took the actual sales as reported by the Company, and made a division upon those percentages of the actual expenditures made in 1903 for certain items. This Exhibit, Defendants' Exhibit No. 151 for identification, shows the derivation of percentage because there are two percentages, which I applied to the expenses which I apportioned partly to the subsidiary companies, owing to the fact that that bought gas from the Brooklyn Union Gas Company.

[fol. 2054] Mr. Cummings: I offer in evidence, Defendants' Exhibit "Derivation of Percentage of Expenses other than production applicable to subsidiary companies in the year 1923."

(Defendants' Exhibit No. 151 for identification was thereupon received in evidence.)

Some of the items I took as constituting operating expenses are shown on Defendants' Exhibit 152 for identification. Not all of them. There are others on other sheets. These items shown on Defendants' Exhibit No. 152 for

identification constitute the operating expenses, together with others.

As to how I applied the percentages to those various items of expense; as shown on Defendants' Exhibit No. 152 for identification, I think Exhibit 153 is an explanation of Exhibit 152.

(Paper marked Defendants' Exhibit No. 153 for identification.)

The items allocated are shown on Defendants' Exhibit No. 153 for identification, and the method by which they were allocated is shown in the footnotes. That is, I showed the percentage which I applied against each item in a footnote. Where I deviated from the percentages in the footnote, I have other footnotes to indicate just what I did.

There are certain items there shown on Defendants' Exhibit 153 for identification that I applied my percentage of 77.586 and 22.414. Those are items totalling $1,131,095.25, and are referred to in Note D, and the amount thereof, which is so allocated on the basis of the 22 per cent. plus, is $253,523.69.

Those items which are allocated by using that percentage are allocated upon the basis of the relative sales, as shown [fol. 2055] by Defendants' Exhibit No. 151.

I applied another percentage to the items under the heading entitled "General Expenses," "Proportion Applicable to Fourth Ward Companies" for holder expenses, and that percentage was 9.007 referred to in Footnote E. The total of this expense is $209,189.59 as general expenses, and the amount applicable to the Fourth Ward Companies is $18,841.71. I might say that on Defendants' Exhibit No. 152 for identification, I carried forward into Column 2 the items in the last column of Defendants' Exhibit No. 153 for identification, and made a deduction of the amounts which apply to the subsidiary companies from the 1923 expenses of the Brooklyn Union Gas Company, as shown by its books, which give me in the third column the amount applicable to the Brooklyn Union Gas Company only, and I worked out the cost in cents per thousand cubic feet of gas sold for each item. That appears in the last column on Defendants' Exhibit No. 152 for identification.

Defendants' Exhibit No. 152 for identification contained a list of the items of General and Miscellaneous Expenses which I allocated on this percentage which I ascertained, also there were some others, that that sheet Defendants' Exhibit No. 152 for identification did not contain all of the items of operating expenses thus allocated, but there were some others. The sheet entitled Distribution Expenses, shows what others I referred to.

[fol. 2056] The Master: We will mark that Defendants' Exhibit No. 154 for identification.

(Paper marked Defendants' Exhibit No. 154, for identification.)

Defendants' Exhibit No. 152 and 153 for identification cover the general expenses, whereas Defendants' Exhibit No. 153 for identification covers the Distribution Expenses. We have in those three sheets, Defendants' Exhibits 152, 153 and 154 for identification, all of the items of expenses which I allocated by this percentage theory, outside of taxes. Taxes are shown on the paper marked Defendants' Exhibit No. 155 for identification.

(Paper marked Defendants' Exhibit No. 155 for identification.)

Defendants' Exhibits 152, 153, 155 and 155 for identification contain all of the items which I allocated on the percentage basis, shown in Defendants' Exhibit No. 151.

I have explained what is shown on Defendants' Exhibit 153 for identification.

On Defendants' Exhibit No. 154 for identification are the Distribution Expenses which should be shared by the subsidiary companies with the Brooklyn Union Gas Company, on the first part of the sheet, the expenses totalling $279,440.82, so apportioned on the basis of the 22.414 per cent., indicated in Note A. The resultant computation of applying the 22 per cent against the items in the first column is shown in the second column entitled "Applicable to Sub-[fol. 2057] sidiaries." The third column "Applicable to B. U. G." is equivalent to the first column minus the second column. In the last column I have worked out in cents per thousand the expenses which are applicable to the Brooklyn Union Gas Company only.

Under the heading "Distribution Expenses, Holder B"—the headings are the same for each column except that for those items I have taken the percentage of 9.007 representing the percentage which applies to the Fourth Ward Companies in these particular expenses. Where the expenditures relate to holders, I allocate those as between the Brooklyn Union Company and the Fourth Ward Companies alone and that ratio is 9.007.

Mr Cummings: I offer in evidence, if the Court please, Defendants' Exhibits 152, 153 and 154 for identification.

Defendants' Exhibit 152 for identification is "Operating Expenses, 1923 as apportioned between B. U. G. and Subsidiaries." Defendants' Exhibit No. 153 is "Expenses Other Than Production Applicable to Gas Sold to Subsidiaries, Year 1923," Defendants' Exhibit No. 154 for identification, all applicable in the opinion of the witness.

The Master: Defendants' Exhibits 152, 153 and 154 for identification may be marked in evidence.

(Defendants' Exhibits 152, 153 and 154 for identification were thereupon received in evidence.)

On Defendants' Exhibit No. 155 for identification, I have taken the actual taxes charged on the Brooklyn Union Gas Company's books, using also some other records in addition to the books and apportioned them as shown on the sheet, some of them on the 22 per cent. basis and some on [fol. 2058] the 9 per cent. basis, which is the ratio of the Brooklyn Union Gas Company to the Fourth Ward Companies. The taxes paid by the Brooklyn Union Gas Company on the Newtown Holder I also apportioned on the 9 per cent. basis as well as the taxes paid on the Beaver Street and Jamaica Place property.

For the special Franchise Tax I took one-sixth of that tax and allocated it on the 22 per cent. basis to the subsidiary companies. The one-sixth is based, as stated by Mr. Blanchfield in the minutes—that is, I checked up on his computation and, by taking the total of the mains and half the services, I found out what the transmission mains amounted to in proportion. On the real estate and corporation tax I have taken on the basis of 22 per cent., and also the personal property tax.

For the Gross Earnings Tax, I have taken the actual amount of taxes which would be payable by the Brooklyn Union Gas Company on the actual sales in 1923 to the subsidiary companies. That is, I got the price received from the subsidiary companies and applied one-half of the per cent., to get the rate.

On the Federal Income Tax I made a computation which was by first taking 8 per cent., on the Fixed Capital Investment—the average fixed capital investment in 1923, as shown by the company's books—and figuring out the tax which would apply against that return on the investment, not taking into account any interest deduction at all.

[fol. 2059] The Federal Capital Stock Tax is not apportioned. I have sheets which show in greater detail the methods pursued by me in apportioning these various taxes. They are all work sheets. I haven't the sheet which shows how I arrived at the gross earnings tax, that is another computation.

Mr. Cummings: I offer in evidence Defendants' Exhibit No. 155 for identification which is, "Taxes Applicable to Gas Sold to Subsidiaries, Year 1923."

(Defendants Exhibit No. 155 for identification thereupon received in evdience.)

Defendants' Exhibit No. 156 for identification is a summary of the preceding schedules for expenses and taxes; in addition to which there is included here an amount for renewals and replacements at one cent. per thousand cubic feet of gas sold, which is the amount, I believe, testified to by Mr. Blanchfield as the proper charge to the subsidiaries. I have carried this a step further by working out at the bottom of the sheet the amount of the return on the investment, which should be borne by the subsidiaries due to the use by those companies of part of the Production Plant, and transmission, and so forth. I have given here only the net result of the calculation, without giving any money figures; that is, I have shown that item in cents per thousand cubic feet of gas sold under the heading "Return On Investment—Fixed Capital, Working Capital, Total Return."

In addition to that I show what the total of the expenses plus the return is, at the very bottom of the sheet, I arrived at the return on the investment, Fixed Capital by tak-

[fol. 2060] ing the Fixed Capital—I took the book cost of the Fixed Capital on January 1st, 1923, and then I got the additions during the year 1923 and added to the book cost on January 1st, 1923, one-half of the additions, which gave me what I called the average fixed capital for the year and figured 8 per cent., on that property which was used jointly by the Brooklyn Union Gas Company and subsidiaries.

Mr. Cummings: I offer in evidence Defendants' Exhibit No. 156 for identification.) which is "Cost Other Than Production Applicable to Gas Sold to Subsidiaries, Year 1923."

(Defendants' Exhibit No. 156 for identification was thereupon received in evidence.)

(Marked Defendants' Exhibit 157 for identification.)

Defendants' Exhibit No. 157 for identification purports to show the amount of the gross earnings tax, payable by the Brooklyn Union Company at the dollar gas rate. The figures on which this schedule is based are the 1923 figures for sales; that is, I have taken the actual sales in the year 1923, and divided them as the books show, between the sales to the municipality, and the sales to other consumers, figuring municipal sales of 75 cents, which is the actual revenues the company got, and figured the sales to other consumers at a dollar. The other figures, that is, for deductions and allowances and uncollectable gas bills, merchandise and jobbing revenue and sales of residuals, and by-products, and bad debts figures are all actual 1923 figures taken from the company's books and records. The company uses some [fol. 2061] method of computing its gross earnings tax. I do not follow that method exactly. In the company's report to the State Tax Commission, the Company includes all revenue which it gets; that is, revenue from its gas business and revenue also derived from investments—interest on investments, that is, and it would be pretty hard to apportion the expense as between the two kinds of revenue. In addition, the company bases its report to the State Tax Commission on the fiscal year ended October 31, 1923. Here I have taken the actual 1923 sales, and other items and elminated revenue from investments. In that way not complicating the question of Gross Earnings Tax by the factor of tax applicable to the investments. I am applying the

tax to the revenue derived from the sale of gas exclusively. This is purely the tax payable to sales of gas, and eliminates any tax payable for revenue fro many other source.

Referring to sheet, 157 for identification, the books of the company do not separate the amount of tax that is applicable to the income from other than gas sales; but the method that I followed in computing the gross earnings tax is exactly the method adopted by the company in computing its taxes, as shown in its report to the State Tax Commission. The actual amount which the Company paid in 1923 does not appear on this schedule. That is on other schedules that I submitted this morning. The company has paid its tax and the State took the money.

(Defendants' Exhibit 157 for identification marked in evidence.)

[fol. 2062] On Defendants' Exhibit No. 158 for identification I have made a computation purporting to show the amount of the transportation expenses called in 1923 "Stable expenses" and "automobile expenses"—which in 1923 are applicable in my opinion, to the operating expenses of the Brooklyn Union Gas Company. In 1923 the Company did not attempt to apply the transportation expenses to the various accounts representing the use of the automobiles. In other words, if the machine was assigned to work on the construction, no attempt was made to charge construction with the cost of the operation and maintenance of that particular car. Similarly for assignments to other places. The basis that I made this allocation is the five months' expenses for transportation in the year 1924, ending May 31st.

In the year 1924 the company charges the various accounts representing the use of the cars by taking the total transportation expenses for the month, and spreading them over the various accounts, both fixed capital and capital account, other than fixed capital, and operating expense account. I have followed the company's allocation in 1924, and have applied it to the 1923 expenses, and obtained a division of the total of those expenses, in 1923, amounting to $214,394.80 on the basis of the first five months.

The use of the automobiles in 1924 was charged to—rather the expenses in connection with the automobiles were

charged to two accounts—for the name of these Accounts and any other accounts you may come across—Transportation, Expense, Maintenance and Transportation Expense [fol. 2063] Operation. A journal entry each month cleared those accounts and spread them over the various accounts, both Fixed Capital, Capital and Expense Accounts, depending upon the use, as reported, I presume, by Mr. Lewis, to which these cars were put.

In 1924 the accounts were Fixed Capital. Among the Fixed Capital Accounts were the Works and Station Structures.

I had to examine the Transportation Account Operation and the Transportation Account Maintenance, and the journal entries clearing those accounts. The name of the two accounts is as follows: Transportation Expense in 1924, Operation of Transportation Service. The second is Transportation Expense in 1924: Maintenance of Transportation Equipment. I also used some of the underlying data as to these two accounts. Those are the two accounts that I referred to.

Mr. Cummings: I offer those two accounts.

The Master: They are admitted in evidence and marked Defendants' Exhibits 159 and 160.

(Accounts referred to considered Marked Defendants' Exhibits Nos. 159 and 160, respectively.)

I stated that certain amounts charged in those accounts were cleared at intervals and put in other accounts which are not yet in evidence, but I did not use the other accounts in order to ascertain what those accounts were, because I used the journal entries, which are the underlying data for the clearing accounts to this particular account; so I do not have to go to those other accounts.

[fol. 2064] Mr. Cummings: I offer in evidence the journal entries supporting the entries in the ledgers in the accounts to which the witness has referred.

The Master: Admitted and marked Defendants' Exhibit No. 161.

(Journal entries referred to considered as Marked Defendants' Exhibit No. 161.)

The only supporting data that I used or obtained were the supporting data for the credit or accounts clearing these accounts. I did not attempt to get the supporting entries for the charges to these accounts, which may come from the cash book, because I was not particularly interested in those. I could not say off hand if any of the entries in these ledger accounts that have been marked in evidence were supported by entries in the cash book.

As to what accounts they were spread over, the first group of accounts are the Fixed Capital Accounts, consisting of Works & Station Structures; Boiler Equipment; Water-Gas Sets; Steam Engines; General Office Structures; Accessory Works Equipment; Mains, Transmission and Distribution; Purification Apparatus; Stores Department Structures; Services; Engineering & Superintendence; Consumers' Meter Installation; Holders; General Shop Structures; General Equipment for Transportation; Laboratory Equipment; and Miscellaneous Equipment.

[fol. 2065] The next account is Accounts Receivable, representing charges to subsidiary companies. Then Property Abondoned Account. Then comes the Operating Expense accounts, as follows; Miscellaneous Works Expense; Gas Storage; Maintenance of Works & Station Structures; Maintenance General Office Structures; Maintenance of Mains; Maintenance of Services; Maintenance of Consumers' Meters; Maintenance of Installation; Maintenance of Street Lamps; Maintenance of Holders; Maintenance Accessory Works Equipment; Maintenance Furnaces; Boilers and Accessories; Maintenance of Purifier Apparatus; Maintenance of Distribution; Implements and Accessories; Maintenance of Water-Gas Sets; Maintenance of Garage Structures; Maintenance of Store Structures; Operation of Transportation Service; Maintenance of Transportation Service; Transmission Pumping; Distribution Supplies and Expenses; Work on Consumers Premises; Removing and Resetting Meters; Commercial Supplies & Expenses; Canvassing & Soliciting; General Office Supplies & Expenses; G. O. Building; Store Expenses; Miscellaneous New Business Supplies & Expenses; Other Miscellaneous General Expenses.

In the year 1924 the use of these automobiles was spread over these various accounts. I examined these accounts for

the first five months of 1924. The journal entries that I used gave me the amounts which were spread to these various accounts.

After I got the amounts apportioned, I summarized the apportionment by grouping all the accounts other than the Operating Expense Accounts, and arrived at a total of [fol. 2066] $33,088.77 so charged to the accounts other than Operating Expense Accounts.

During the five months' period, then I grouped those accounts which in the schedule I introduced this morning I apportioned partly to the subsidiary companies and arrived for those accounts at a figure of $43,288.47. The third grouping I made were those accounts in which the subsidiaries do not share the expenses, and I arrived for that group at a figure of $37,032.05, making a total of the transportation expense of $113,409.29. Then I had three groupings, really, of the entire transportation expense. After I had them grouped, I multiplied the second group, representing the group which is partly allocated to the subsidiary companies, by the percentage to be applied to the subsidiary companies, that is, the 22.414 shown on the schedule I introduced this morning, and obtained a figure of $9,047.47 as the amount which the subsidiaries should stand under those particular accounts. That left a balance out of those particular accounts which the B. U. G. alone were interested in of $34,241, which added to those accounts in which the subsidiaries do not share gave me a total applicable to the Brooklyn Union Gas Company only of $71,273.05.

I will begin over again in stating that I grouped them in those three groups, the first group being accounts other than Fixed Capital—that is, I grouped 1924 expenses as shown by the Journal entries, into three groups, the first representing those items which were not Operating Expense account, the other two being Operating Expense Accounts, the first one of which are those accounts in which the subsidaries share part of the expense. The third items [fol. 2067] are those in which the subsidiaries do not share any part of the expense. I then multiplied the second group, which is the group in which the subsidiaries share part of the expense, by the 22.414, which is the ratio developed in the schedule I introduced, that was developed

from sales in 1923, and got the amount applicable to subsidiaries out of that group of accounts. Adding the difference between that amount and the total of such expenses, I obtained the amount in those accounts which was applicable to the Brooklyn Union Gas only and added that to the other accounts in which the subsidiaries do not share and obtained a total of $71,273.05 as the amount representing the Brooklyn Union Gas Company's share of the expenses which should be charged to Operating Expenses.

This ratio, this percentage that I developed and which is shown on my Exhibit 151, is based upon the sales of gas during the year 1923. Having ascertained that ratio in percentage form I applied it to this transportation expense during the first five months of 1924. I cannot say it would follow, that if the sale of gas during the first five months of 1924, as between the Brooklyn Union Gas Company and its subsidiaries, was not in the same ratio as existed in 1923, the result that I obtained in my Exhibit 158 would be to that extent inaccurate.

Taking an extreme example: Suppose the subsidiaries sold no gas; all the gas was supplied by the Brooklyn Union. My percentage that I have applied to the Expense Account for the first five months of 1924 would not be maintainable, if, on the other hand, the ratio between the sales of the Brooklyn Union and the sales of the subsidiaries suffered a [fol. 2968] substantial variation during the first five months of 1924 as compared with 1923, to that extent my calculation as shown on Defendants' Exhibit 158 would be inaccurate.

The figure of $9,047.47 which I show here of the 1924 expenses as applicable to subsidies, I do not mean to say that that much money should have been charged by the Brooklyn Union to the subsidiaries in 1924, but I arrive at that figure only for the purpose of getting a ratio. I arrived at my ratio by a contemplation of the relative sales of gas in 1923. That gives me my ratio. That is the only ratio I developed.

There is a ratio which I worked up showing the relative charges to Fixed Capital Accounts or accounts other than Operating and distinct from Operating, but I took the ratio which was indicated by the relative sales of gas in 1923 as between the Brooklyn Union and its subsidiaries and ap-

plied that ratio to the allocation of this expense account now being considered during the first five months of 1924. My purpose there was not to show what the subsidiaries should have been charged in 1924. The reason I used the 1923 and not the 1924 sales is because I was heading for a computation to show what in 1923 the charges should be, and I assumed for this purpose that the automobiles would be used about in the same way as they were in 1924. That is the only assumption that I have made throughout this. That is, this is an intermediate step.

I assumed that during the first five months of 1924 there would be just about as much construction work going on as there was during 1923. Not only really construction work; [fol. 2069] I assumed that the ratios between the accounts would be the same. I might say that on a good many of the accounts where I had any doubt at all I excluded them from the computation. That is, instead of charging the subsidiaries, I rather let it go than include any computation at all, so as to get a figure which would represent rather a minimum figure than a maximum figure. By this computation shown on Exhibit 158 I tried to show here that if the automobiles in 1923 were used about in the same way as they were used for the first five months of 1924 there should be charged to Fixed Capital out of the 1923 Automobile and Stable Expenses the sum of $62,551.83 and there should have been charged against the subsidiaries $17,104.41, leaving the amount applicable to the expenses of the Brooklyn Union Gas Company alone, the balance of $134,738.56. To have arrived at the same figure by going over the Company's 1923 tickets or books and other records they had in the Transportation Department would have meant perhaps several months' work.

In 1923 there was no record on the books of the Brooklyn Union Gas Company or its subsidiaries showing the uses to which the automobiles were put, as, for example, to what extent they were used in construction work and to what extent they were used in some other work. But inasmuch as the books for the first five months of 1924 did contain a record in that regard, I proceeded upon the assumption that the conditions existing in the first five months of 1924 were substantially the same as during the year 1923. So I took

the data available during the first five months of 1924 and applied it to the 1923 record.

[fol. 2070] Mr. Cummings: Now, if the Master please, I offer in evidence the Defendants' Exhibit No. 158 for identification.

Mr. J. A. Dykman: I object to this as immaterial and irrelevant. The Uniform System of Accounts, which is Plaintiff's Exhibit 244, which was in force in 1923, on page 52 reads:

"Stable Expenses.—Charge to this account the cost of feed, keep and shoeing of horses, wages of stable men, hostlers, veterinary expenses, and all other expenses of stabling horses; also the expense of repairing harness and vehicles."

That is the Operating account to which automobiles were charged. The Public Service Commission having adopted this, made it the law of the State, it was obligatory on this plaintiff to charge those expenses to Operating, without distribution.

Now, Plaintiff's Exhibit 245, the New Uniform System of Accounts, which went into effect on the 1st of January, 1924, the account "Transportation Expenses" on page 90 is the corresponding operating account and contains a note:

"(b) Charges to this account may be distributed to the work done by the stable and garage equipment on the basis of hourly rates, the rates per ton mile hauled, or other bases deemed appropriate by the management of the accounting company. Amounts *do* distributed should be credited to this account and charged to the account representing the Construction or Operation benefit*t*ed. Credit should be made in such detail as to permit the accounting company to anlyze them."

(Defendants' Exhibit 158 for identification received in evidence.)

[fol. 2071] JOHN JOSEPH WELSH

Direct:

I reside at 463 Third Avenue, Astoria, Long Island. I am now and have been connected with the Public Service Commission as one of their accountants, since March 1st, 1922. I am a graduate of Grammar School, also evening high school, also the Corporation School of the Consolidated Gas Company of New York, also the School of Business and Civics Administration, Evening Session, College of the City of New York. I worked in the United Electric Light & Power Company, 130 East 15th Street, entering their employ in April 1907 as an office boy. I worked through the different departments up to and including the Accounting Department and while in that Company's employ I had charge of the Construction Ledger, Operating Expense Ledger, Journal, and assisted on the general ledger and also prepared the monthly financial and statistical reports. That position I held for about four years. I had two men working under me. I left the employ of the United Company September 30th, 1919 and was then employed for two years by Charles Conant & Bros., 170 Broadway, and then later 527 Fifth Avenue; Importers of diamonds and precious stones. I was employed as office manager and accountant. I left their employ on February 28th, 1922 and then entered the employ of the State of New York, the Public Service Commission as accountant.

I have examined the books of the New York & Queens Gas Company, the Bronx Gas & Electric Company, Consolidated Gas Company; examined some of the books of the Brooklyn Union Gas Company; examined the books of the Northern Westchester Lighting Company; also the [fol. 2072] Peekskill Light & Railroad Company. In addition, I may say, I have called at the offices of the New York Edison Company, United Electric Light & Power Company and the Brooklyn Edison Company, and have taken up matters of accounting with the officers in charge of the Account Department, where they deviated from the instructions or accounting regulations as prescribed by the Public Service Commission.

I made an examination of the books of the Nassau Gas Light Company, one of the vendor companies that were

taken over by the Brooklyn Union Company in 1895, and took from their records such an extract. I have them here with me.

I proceeded to make my examination by calling at the office of the Brooklyn Union Company and spoke to Mr. Blanchfield, the Assistant Auditor. I made a requisition for the following books: Cash books, A, B, C, D, E, F and G, of the Nassau Gas Light Company Journal A, Ledger A, Trial Balance Book for 1892, Trial Balance Book 1878, Trial Balance Book 1883, Trial Balance Book 1887, Trial Balance Book 1871. I asked for the Manufacturing Cost records, 1873 to 1893, but could not locate them and did not know whether they were at the office of the company or not. The other books were given me. I also asked for the Stock Ledger, but later on decided I did not need it. I had also before me and obtained the two minute books of the Nassau Gas Light Company. I had before me the copy of Plaintiff's Exhibit 297, which I believe was prepared by Mr. Mount accountant for the company.

I examined this particular exhibit 297 as it referred to [fol. 2073] the Nassau Gas Light Company, and I checked Mr. Mount's figures as given on this exhibit, with the general ledger of the Nassau Gas Light Company, and found the ledger balances, as he had headed them, "Available records of the vendor companies, ledger balances, I found those ledger balances reflected in the general ledger of the Nassau Gas Light Company. In addition he has a column here, "Transferrred to P & L", and I made an analysis of the Street Main Account, the Meters and the Districts Account, and found that the figures he quoted here as being transferred to Profit & Loss were correct. I also examined the Construction Account of the Company.

I turned to folio 9 of General Ledger A, of the Nassau Gas Light Company, to an account called "Construction", and took from there the debits year by year and month, as shown on the different folios relating to that account. I did likewise for the credits—the credit side of that account. I then turned to the different cash books, where this account reflected, and made an analysis of every item in the Construction Account. Where it referred me to the cash book, I went to the cash book and took off the analysis I could

find there, and likewise to the journal, using both the journal and the cash books practically all of the time.

I had reference to the minut-s in making my analysis of the Construction Account, my attention was attracted to quite a few names, and in looking through the minutes of the Company, I was able to tie in specific accounts recorded in the minute books for contracts for certain items of con- [fol. 2074] struction with the Construction Account. This account I have under date of 1871, March 8th, it says, "To Cash," the first entry is $415.51 and it referred me to folio 3 of the Journal. I neglected to state before, when I made my analysis of the Construction Account, my attention was attracted to quite a few names in here, for large items, and I decided then to go through every folio of the General Ledger and pick out every account that was actually transferred in the construction, and in that way I picked off about ten or twenty names, which I tied in with the minute book of the company, and I found out they were set out separately on the general ledger of the company, and the items accumulated in these different accounts, were afterwards transferred to the Construction Account of the Nassau Gas Light Company.

They first opened up a special account under these various headings with different contractors and then closed them out and transferred those.

The first item I have here St. James Place Workshop and Stable. The title of the account is, "Shop Expense Building". That is the account, General Ledger folio 33, and it refers to the St. James Place Workshop and Stable. There was a contract price to Mr. De Mott, page 8, minutes of February 27, 1871 for $1,675, and I went to the cash book, folio 3, and found a payment on April 8, 1871, for $1,690, which wss charged to an account called Shop Expense Building, General Ledger folio 33. From May 1, 1871, up to and including December 31, 1873, I have a list made of the following cash payments on account of this particular building.

[fol. 2075] These are items that were shown under this General Ledger folio 33, Shop Expense Building, and these were separate items. I traced them right through the cash book. The notation is made of those things right in the

account under "Shop Expense Building, General Ledger folio 33.

On page 8, minutes of February 27, 1871—I find a notation tion on the minute book of the Nassau Gas Light Company referring to a contract made with Mr. De Mott for $1,675. It referred to the St. James Place Workshop.

I have not got the notation right down here, what it was for. I did not make a copy of the minutes but I think I have a copy of it here. It is dated February 27, 1871. This is an abstract made from the minute book: "Lot on St. James Place leased for $250 per annum, City and Water Tax. Contract for workshop and stable garage $1,675." There may be more in the minut-s, but this is just a condensed analysis of that. Turning to the General Ledger, folio 33, under an account called "Shop Expense Building" under date of April 8, 1871, posted from the cash book 3, I find a payment $1,690, which was made to Mr. De Mott. Whether Mr. De Mott did anything there or he got the money, I do not know, but that is how I traced that.

That account showed rent for lot on which building was erected on St. James Place according to the terms of lease with William Hunter, Jr., at an annual rental of $250 for five years, City and Water Taxes to be paid by the company, see page 8 of minutes of meeting of February 27, [fol. 2076] 1871. I traced the amounts paid to Mr. Hunter Junior in six payments at $62.50, totalling $375. I also found an entry in there of $75.60 for water taxes. I believe it was paid to the Nassau Water Department. I also found an item for $187 for City tax; interest $12.75. I found an entry of $2.50 for glass cutter and miscellaneous payment totalling $461.83 making a total as per the general ledger, of $2,364.68.

On January 31st, 1873, this account was credited with $1,718.05, as per journal folio 28. The following accounts were charged:

Shop Expenses, error in the journal charging sundry extras $490.42. Taxes; then it has an explanation charged in error $2.63. Those two items gave me $1,718.05, and that left a balance in the account of $2,086.63. This balance was charged to Profit & Loss as follows:

Journal Folio 20 under date of April 30, 1872	$489 87
Journal Folio 31 under date of April 30, 1873	$319 35

Journal Folio 62, under date of April 30, 1874	$442 76
Journal Folio 94 under date of May 1st, 1875	$417 33
Journal Folio 125 under date of April 29, 1876	417 32

The total of these five items amounts to $2,086.63 and that balanced the account. I found that there were certain bids made for certain construction work in 1872 as shown by the minutes. I found something in the minute book alluding to the matters recorded in these special accounts. [fol. 2077] Under date of March 19th, 1871, the minutes of that date show that under date of February 26th, there was a contract made for a tank and holder with T. F. Rowland for $102,000, that was the contract price. In going through the general ledger I find that there was an account opened on Folio 65 under the name of T. F. Rowland, "Account of Holder." This referred me to the first entry in this account under date of March 16th, 1872, and referred me to the cash book, folio 77, where I found a payment made of $5,000.

From April 17th, 1872, to and including February 28th, 1873, cash payments were made to Mr. Rowland on these different dates for the following:

Labor and material furnished	$96,000
Insurance	75
Interest on certificates	35 29
Making a total of	$96,100 29

and I found an item there, "Loomis & Thorne for insurance," again, $75.

I found another item amounting to $577.50 which referred me to the journal, folio 41, under date of August 20th, 1873, "T. F. Rowland rendered a statement for extras." Now, the total as per folio 65 in the General Ledger for this account was $101,762.79.

On August 20th, 1973, this account was transferred to an account called "T. F. Rowland, as per journal entry, August 20th, 1873, folio 42." This account was balanced up. [fol. 2078] Under date of March 26th, 1872, page 78 of the minute book that I am referring to, I find that a contract was made with T. F. Rowland for iron work, and this is set up on the General Ledger, Folio 76, T. F. Rowland, Con-

tract No. 2. The first entry in this account under date of May 24th, 1872, cash book, folio 97, is for $5,000.

There is another entry under date of May 31st, 1872, cash book, folio 97, for $4,000, making a total of $9,000. From June 18th, 1872, up to and including July 31st, 1873, cash payments were made to T. F. Rowland as per cash book for the following:

Labor and material	$87,000

Under date of August 20th, 1873, T. F. Rowland rendered a statement for extras amounting to $4,831.71, as per journal, folio 41; these two items amounting to $91,131.71.

In addition, the following payments were made from June 18th, 1872, up to and including July 31st, 1873, as per the cash book:

Insurance	$422.40
M. W. Johnson	56
Report of F. S. B.	1
Interest on certificates	141.15
Metropolitan S. Company	51.65
Providence S. S. Company	65.20
Expressage on goods from Morse Tasker & Company	.50

[fol. 2079] On March 20th, 1873, bill of M. W. Johnson was charged through journal, page 29, for 18.5 square feet of covers $4.70 the total under general ledger, folio 76, for this account, amounting to $100,874.31.

On August 20th, 1873, this account was transferred to the following accounts:

Construction	$56
T. F. Rowland	100,818.31
Making a total of	100,874.31

as per journal entry under date of August 20th, 1873, folio 42.

Then they opened up a new account called T. F. Rowland, in which they consolidated the balances, or carried forward the balances from these two accounts. I have an analysis of that account before me here. I traced this account through to the General Ledger, Folio 134.

As to what was the result of the consolidation of the two accounts that I have mentioned, into this new account, "T. F. Rowland," under date of August—this account is called, "T. F. Rowland," General Ledger, folio 134." The first entry is under date of August 20, 1873, and is a debit item for $206,519.34, made up of the following items:

Construction, labor	$3,938.24
Balance account of holder	101,762.79
" " " " No. 3.	100,818 31

Under date of August 20, 1873, on Journal folio 42, this account was credited with $204,709.21 and the Construction [fol. 2080] Account was charged, taking that in. Then they continued to make certain debits under this account, "T. F. Rowland" after that, but the largest item was $204,709.21. That was subsequently debited to Construction. The greater part of this T. F. Rowland account. There were some small items in there that went to Repair Account, but the greater part went to Construction.

Referring to the minutes of March 26th, 1872, page 28, I found out that that contract was made with S. L. Keeney for masonry work at the works and the contract price was $68,623.92, but there were some extra items, making the amount $72,164.98.

The minute book showed that a contract was made for $68,623.92. Going to the General Ledger A, Folio 72, the account was opened for S. L. Keeney, which showed a total paid of $72,164.98. On August 20th, 1873, this general ledger account was closed out and transferred to the Construction Account as per journal, Folio 42.

Referring to the minutes of March 26th, 1872, page 28, a contract was made with Mr. S. M. Weeks, for carpenter work at the works, and the contract price was $15,834.

Referring to Ledger A, Folio 82, an account was opened under the name of S. M. Weeks, and the total debits to that account amount to $16,524.72. Under date of September 4th, 1873, Journal, Folio 44, this account was transferred to Construction.

Referring to the minutes of March 26th, 1872, a contract was made with I. H. Whittier for $5,000 for benches and [fol. 2081] chimneys. An account was opened up in General

Ledger A, Folio 83, under the name of J. H. Whittier, and the total amount was $4,965.83.

Under date of May 31st, 1873, Journal, Folio 34, this account was transferred to the Construction Account.

[fol. 2082] Brooklyn, N. Y., July 8, 1924.

BENJAMIN COHEN

Cross:

While I was employed by the Public Service Commission I had examined reports from various public utilities and framed letters of criticism and checked some books of these utilities. The examination and reports was a regular thing. The only time we checked books was when we found anything particularly that we wanted to check up, any special thing. We did not, as a matter of regular routine, check any of the books of any of the utilities. But when we found something about which we wanted more information, we wrote first, and, if we didn't get the response by writing which satisfied us, we usually went to the books after that. That included gas companies. The Commission was informed to the extent that—I recall now that the Commission wrote the Brooklyn Union Gas Company some time in 1921 or 1922, I don't recall just the exact date, for information on that subject and it received in reply a letter stating that the charge was based on 21 and 26 cents, whatever the figure was at the time. The Public Service Commission of that State of New York was informed. That answer is not complete, however. After the receipt of the letter from the company stating that the charge was on the basis of 21 cents and 26 cents respectively for some of the companies for those expenses which should be borne [fol. 2083] by the subsidiary companies, I recall that the Commission wrote for further information. My impression is that they got further information by receiving another letter to the effect—rather, giving a little more detail, showing the various classes of expenses which were represented in these respective items, but they never got, I know, a detailed statement showing the method by which

the company arrived at its calculation; that is, while I was with the Commission. Of course, I don't know what has been done since then. I don't recall that the Commission criticized this charge of the plaintiff to its subsidiaries. I would not be positive either way on that. I do not recall that at one time the Commission found that the charge to one of the subsidiaries at least, was too high. I don't recall having ever read the opinion and order of the Commission in case 1610 entitled "In the Matter of the Claim of A. Herman and others against the Newtown Gas Company," which was decided in 1916. In my efforts to arrive at what I considered to be the proper sum to charge these subsidiaries, I didn't go into that matter at all from that angle of studying the former rulings of the Commission, and I don't know and did not know at the time I was considering this question, what the Commission had done or said in the past, except the letters I referred to before. That is the only knowledge I have on the Commission's [fol. 2084] actions in this matter. In the various cases which were brought subsequent to 1918 to contest the constitutionality of the 80-cent law, I prepared schedules in practically all those cases, and it would be pretty hard for me to tell offhand, without reference to them, just whether in any of them there was a variation from the company's schedules put in in those cases. I know they were all prepared from books, the same as these were here. As to whether or not the schedules varied from the plaintiff's schedules on similar subjects, I would not be sure about that. At the present time I don't remember that the schedules I prepared varied from the schedules prepared by the various plaintiffs. If I answered that question properly, I would have to recall the schedules I prepared in all of these cases. The situation in the case of the Brooklyn Union Gas Company is different from any other company in the City, in that the Brooklyn Union is the only manufacturing company and the subsidiaries are not manufacturing companies. In the Consolidated also that would not be true entirely—principal company and subsidiaries to whom the principal sells gas, because in the Consolidated also the question of the inter-corporate relationship was gone into quite a good deal in the old case, and I don't

know whether I made up any schedules in regard to that particular subject, but I do know it was discussed quite a good deal. Here in this case we have the Brooklyn Union [fol. 2085] Gas Company and certain subsidiaries. The subsidiaries do not manufacture gas. The Brooklyn Union manufactures gas and has its relations with the subsidiaries in that regard. In my work with the gas companies, I have dealt with a situation similar to that, where one company was the sole manufacturer of gas and sold it to subsidiary companies.

I am employed by the Attorney-General's office. Mr. Little actually made the arrangement with me for my work and testimony. I don't know whether Mr. Little is a representative of the City of New York or a representative of the Attorney-General. I have never asked him that question. I know nothing about Mr. Little's financial affairs or arrangements with anybody, because it is none of my business what his arrangements are, and I have never asked him. I know this, that while I was with the Commission Mr. Little testified as a City witness in one of the cases. If I can draw the inference from that, he is a City employee, I presume. I presume that is the case, but I have never asked Mr. Little what the situation was and where he got paid from or anything else. I don't know that Mr. Little is and has been for some time under retainer from the City of New York. I cannot say that the arrangements for my testimony and work in this case were made [fol. 2086] on behalf of the City of New York, without giving the way the arrangements were made. I can give that in detail. I was called up by Mr. Little's office and told I could work with him on this case. We arrived at a price. I went to work, and then I received a letter signed by Mr. Hertzoff, of the Attorney-General's office, introducing me to various of these companies. That is all the arrangements that I made. Mr. Little's office is at the Municipal Building. I have been paid for my work. The check comes from the City of New York. I have never been employed by a gas company. I have no knowledge of the industry except what I have gained as an accountant on books and records. I should say that the subject upon which I am testifying here is a complicated subject. I con-

sider myself as well qualified to express an opinion on this subject as a man who, in addition to accountancy, has from experience not only with this plaintiff but with other companies, a practical knowledge of the working of the Brooklyn Union system, because it is strictly an accounting matter, that I differ with the particular party to whom you refer. The subject of my exhibit is purely an accounting matter, for his reason: I have not deviated from Mr. Blanchfield's method. All I did was to use the actual sales and actual expenses in 1923, in place of the estimate which he has used—and the 1922 expenses, by the way. I do [fol. 2087] not consider the apportionment of the cost of the various operations in the Brooklyn Union System a purely accounting proposition. A knowledge of the functions of the various bureaus is necessary in addition to a knowledge of accountancy in order to properly apportion them,—what is contained in the various accounts aside from the actual money that would be necessary. The reason I used Mr. Blanchfield's calculations is because I knew Mr. Blanchfield knew the company very thoroughly and I could not—and I checked up on his method sufficiently to satisfy me that it was substantially correct. I used Mr. Blanchfield's method with the exception that I did not estimate but I used actual 1923 expenses and 1923 sales in place of his estimates.

Exhibit No. 157, at the bottom of the page there is a figure of $81,481.33. That is a substitute for the sum of $133,254.33. I don't know whether it is Exhibit 258, I am not familiar with that. On Exhibit No. 155, that is a separate calculation. As to Plaintiff's Exhibit No. 258, Gross Earnings, $133,254.33, and Defendants' Exhibit No. 157, as representing $81,481.33—the two items are not entirely comparable. Defendants' Exhibit No. 157, as I explained on my direct, is a calculation that I made to show what the Gross Earnings Tax will be at the dollar rate, also exclud- [fol. 2088] ing from earnings anything but revenue from gas sales. The figure on Plaintiff's Exhibit No. 258 is the total amount of the taxes which the company actually paid. In my opinion, between this item $133,254.33 appearing upon Plaintiff's Exhibit No. 258, and the item $81,481.33 appearing upon Defendants' Exhibit No. 157—the only difference

lies in the fact that I have eliminated all income from any source other than the manufacture and sale of gas, while in the larger item presented by the plaintiff these other sources of income have been included. That is the figure which in my opinion represents the amount of the Gross Earnings Tax applicable to the gas business of the Brooklyn Union for 1923 at the dollar rate. I might add that this also excludes any excess dividends tax, which I think, although it doesn't say so here, is included in the $133,254.33 on the other exhibit, Plaintiff's Exhibit No. 258. If I had analyzed all of that I could tell positively. On our Exhibit No. 155 we have the State Tax on Gross Earnings set out at $133,254.33, with a note that that amount does include the tax on excess dividends. The figure on 157 excludes any tax on excess dividends. I discussed with counsel the preparation of a schedule setting forth these facts, and we came to the conclusion that we should exclude that [fol. 2089] particular item. I have never known the Public Service Commission to criticize the inclusion of those excess dividend taxes in Operating Expenses. That tax depends not upon the company's earnings, or rather the amount of the company's earnings, it depends entirely upon the amount of dividends that a company pays. In other words, a company might earn money in one year and not pay any dividends, then there would be no tax. If in the following year, those earnings for a prior year were distributed by way of dividends, even though the earnings of a following year might not be sufficient to pay the dividends there would still be a tax. In other words, the tax does not follow the earnings. That is the reason I excluded it, and I believe I have fully stated it now. That was my only reason.

Exhibit 157 does not set forth any actual taxes at all; this is simply a theoretic computation. As to the fact that the taxable income for the first five months of 1923 was at $1.15 per thousand irrespective of this litigation, I believe that the fact is that the dollar law, I think, did not go into effect until June 1st, and prior to that time, we all know that the company was charging $1.15 under order of the Public Service Commission. So that the income upon which the company was taxable for the first five months at [fol. 2090] least, of 1923, was certainly at $1.15. On our Exhibit 157 I have a deduction of $54,849 for uncollectible

bills. The item of uncollectible bills I took at the actual amount reported by the company for the year 1923. If there were any uncollectible bills at $1.15, they are in there at that rate but the amount is so small that I did not go back to make any changes there at all. I didn't look to see at what rate those uncollectible bills had accrued, because this item of $54,849 was too small to waste time on. If there were any included at $1.15 in the $54,000, it is true that on this Exhibit 157 I have figured the gas sales, I have figured all of the figures I have added, at one dollar, and I figured my deductions at least partially at $1.15. I got the $54,000 either from the Company's books or from the Company's annual report, and I am not sure now which it is, and having been deducted at $1.15 from an amount figured at $1, of course the result was to decrease even the amount I allowed for taxes, but the decrease would not amount to more than perhaps a few cents, if they would amount to that—I don't know. It can't amount to much. On Exhibit 155 is the column headed "Amount Applicable to B. U. G." for the State Tax on gross earnings the sum of $150,113.57, and on Exhibit 157, the figure of $81,-[fol. 2091] 481.33. As I stated before, the two calculations are different. On Exhibit 155 I did not vary from the Company's 1923 costs and did not vary from Mr. Blanchfield's method in apportioning these cost. On Exhibit 157 I made an independent calculation and naturally the result is different. Exhibit 156 is a summary of the exhibits which precede it, and the figures on Exhibit 156 are all based on figures in the exhibits which precede it. The figures on 157 and 158 bear no relation to the final figure shown on 156 as my opinion of the proper charge to the subsidiaries. I might clear that up further by saying that Exhibits 157 and 158 bear no relation whatever to the other exhibits that I put in. That is the amount, which, in my opinion, following Mr. Blanchfield's methods, are the correct amounts by his method to be charged to the subsidiary companies, over and above the production and transmission costs. On Exhibit 155, following the figure for Federal Income Tax of $385,141.49, are the figures in columns headed "Amount Applicable to Subsidiaries" and "Amount Applicable to the Brooklyn Union Gas Company." The figure $385,151.49, I believe I got from the Company's an-

nual report. It may be on the exhibit. That is the figure on the books, and that is my understanding of the tax actually paid. The $82,000-odd and the $300,000 computation [fol. 2092] was made as follows: I first arrived at the amount of the return on the investment. I figured the investment, taking the book cost January 1st, 1923, and adding thereto one-half of the net additions during the year. That is I took the balances of certain accounts in the books on January 1st, 1923, and added one-half the book increment during that year. And after getting the return on the investment I figured out what the—after getting the investment, I figured out what the return would be at the figure which I calculated. The charges to the subsidiaries are made throughout the year. Had I taken the fixed capital at the beginning of the year, or the fixed capital at the close of the year, I would not have arrived at a fair amount of the investment on which the subsidiaries should pay a return. Therefore, in order to arrive at an average investment throughout the year I took one-half of the increment during the year. I multiplied that figure by eight per cent. as the rate of return. I arrived at certain figures. I thought eight per cent. would be an appropriate return and took that for the purpose of my calculation; also because I did not want to deviate from Mr. Blanchfield's calculation to any extent except as I stated before. Based on actual sales those figures were for the Newtown, $201,470.30, for the Flatbush, $154,605.20, for the Fourth Ward Companies, $224,844.75. The next step [fol. 2093] was to divide that by 87-½ per cent., which gave me $230,251.78 for the Newtown, $176,691.70 for the Flatbush and $256,965.43 for the Fourth Ward Companies. I divided by 87½ because that is the net amount which the company retains after paying its Federal Income Tax, the other 12-½ per cent. of its return goes to the government, which is also the method adopted by Mr. Blanchfield in his calculation. That gave me for the tax $28,781.48 for the Newtown, $22,086.46 for the Flatbush and $32,120.68 for the Fourth Ward, making up the figures shown on Exhibit 155. That is, the sum of those figures makes the figure. It was my intention to apportion this tax according to the income-producing property used for the respective companies in the proportions in which they used it,

in this way: The Brooklyn Union gets from its subsidiaries a certain return on investment. At that return the Brooklyn Union has to pay to the Government 12-½ per cent. and it retains only 87-½ per cent. of it. Now, in order to compensate the Brooklyn Union for that 12-½ per cent., the subsidiaries are charged according to this method, which is Mr. Blanchfield's these respective amounts. I was apportioning the tax, according to the relative amount of income-producing property used for the benefit of the respective companies. Nineteen percent of that property [fol. 2094] is represented by the picture on our Exhibit 155 of $82,988.42 stated by me to be the amount applicable to the subsidiaries, which is used jointly. I cannot say what percentage of the entire property of the System that is. I have not the figures with me that I require for that. The $385,-141.49 is the tax upon all the property used jointly and severally. Also it is a tax on the income from other sources than gas, which amount to about $800,000. Our $82,000. is 19 per cent. That is, in order to arrive at my figure of $82,988.42 I considered that the subsidiary companies used 19 per cent. of the total gas property of the Brooklyn Union Company, jointly used. In other words, there are distribution mains, which the subsidiaries do not use; there are services which the subsidiaries do not use; there are meters which the subsidiaries do not use, and there are branch stations which they do not use. Therefore I excluded those from my calculation. I do not say that these things which I have excluded from my computation did not produce taxable income. The income upon which the subsidiaries would pay at 8 per cent. is $580,920.25—that is what I get. It is capitalized at 8 per cent., $7,000,000. If the figures are right, naturally, $7,000,000 would be 10 per cent.; but I do not know what the totals are. I know that the total fixed capital of the Brooklyn Union on its books on January [fol. 2095] 1st, 1923 is $48,964,000-odd. But for the purpose of my computation I have used as the property working for the subsidiary companies practically $7,200,000.

On Exhibit 158, there is a figure of $62,551.83 in the column headed "Application to 1923 Expenses as Representing Costs Applicable to Accounts Other Than Operating Expenses." One of the accounts to which I would apportion this figure is Materials and Supplies. It is true

that some of these materials and supplies would later go into Operations and into Operating Expense. A portion of the $62,000 would go into Operating Expenses subsequent to this period. I considered only the period up to May 31st. In other words, any item of automobile costs, which was charged to Materials & Supplies in this period, but which had not yet been charged to Operating Expenses in the period would be charged to Operating Expenses subsequent to this period if the materials were so used. I did not assume that none of the materials and supplies purchased in the first six months would be used in operating during those six months. At the same time that I did not do that, I agreed that some of the materials and supplies would go into Operating. Let us assume in the month of January something was charged to Materials & Supplies [fol. 2096] for automobile expenses. If those materials were charged in the next month, in February, to Operating Expenses, that charge will find its way into Operating Expenses in the month of February. I did not analyze the Material and Supplies accounts to see how much there was charged into those accounts or remained in those accounts on May 31st of automobile expenses. Therefore I cannot tell now just how much of the $62,000 might follow the operating expense charge in the subsequent period. I cannot tell now how much of the $62,000 should have followed the operating in the period which I was considering. I did not analyze the Materials & Supplies accounts at all. I would not admit that part of this $62,000 upon this schedule which I prepared and presented is not correct, for the reason that if any charges apply in the five months ending May 31st, to Operating accounts, the Materials & Supplies would be charged against those Operating accounts. Those materials and supplies included amounts representing automobile expenses and naturally would be charged into Expenses in that way. I am neither prepared to admit or deny that my figure is correct.

On Exhibit 151 there is no holder expense apportioned to the Newtown and the Flatbush Companies. That was because Mr. Blanchfield did not do it and I followed him on [fol. 2097] that point. I followed Mr. Blanchfield without ascertaining any of these details myself. Mr. Blanchfield gave me the reasons and they looked to me like they were

good reasons and I followed them, upon all these practical questions. These exhibits do not represent much more than a computation. On Exhibit 158 I assign Stable Expenses to each one of the subsidiaries. I took the total of the Stable Expenses which had been charged in 1924 for the period ended May 31st, to the subsidiaries, and I apportioned the 1823 costs in the same way. On Exhibit 158 I assigned Stable Expense to each one of the subsidiaries, not individually, however, but as a group I took this item ten and allocated it to the subsidiaries as a group without dividing it between the several subsidiaries. On Exhibits 158 and 157 I did not follow Mr. Blanchfield. They were independent calculations from the other exhibits. I knew from reading the testimony that the subsidiaries maintained their own stables and some motor equipment as well. I got that from the testimony. I used nothing but the Company's 1924 and 1923 expenses in making up this calculation; used nothing outside of that. The knowledge which I got from reading some testimony of one of the witnesses for the plaintiff did not apply in this particular case.

[fol. 2098] The final figures at which I arrived on Exhibit 156, are based entirely on Mr. Blanchfield's method—not in part. On Exhibit 156 I am about a cent higher per thousand sold to the subs than Mr. Blanchfield is. It makes a net difference of about one-third of a cent per M in the Brooklyn Union expenses. At the bottom of the page at Exhibit 156, opposite "Return on Investment—Fixed Capital," is the figure $6,349,000. That is the return on the investment, at 8 per cent. I did not figure out the total. I have the fixed capital allocated to the subs upon which the figures for Newtown, Flatbush and Fourth Wards appear, but not the total. I have not got the working capital for that. The return on investment shown on Exhibit 156 represents return in the case of the Newtown on $2,142,947. That is fixed capital exclusive of floating capital. On Flatbush, $1,649,292; on the Fourth Ward Companies, $2,557,008. I have given the capital on which the return on investment is shown on Exhibit 156, exclusive of floating capital. I can give the figure for the return itself without any computation. I have used the same figure which Mr. Blanchfield used, which was 20 cents per thousand. I have used actual 1923 sales. I used the 8 per cent. on 20 cent

per thousand to get the returns per M. The 20 cents is already figured on here. This exhibit here has 9.34 and [fol. 2099] 9.328 and 12.091 as return per M. The figure I used as my divisor to get my per M is the actual sales in 1923 by the Brooklyn Union to its subsidiaries as shown on the books.

Redirect:

My exhibits, with the exception of Exhibits 157 and 158, were designed to show the result of a computation following Mr. Blanchfield's method entirely, but adopting actual sales and actual expenses in 1923 instead of estimated sales and estimated expenses. As a result of this computation, it makes a difference of approximately one-third of a cent a thousand. That applies to the entire computation. The uncollectible bills do not enter into this computation at all. Uncollectible bills relate to the computation of Gross Earnings Tax, which is shown on our Exhibit 157.

Recross:

I followed Mr. Blanchfield's method on Federal Income Tax, on Exhibit 156. * * *

[fol. 2100] Brooklyn Union Gas Company, July 10, 1924.

JOHN JOSEPH WELSH

Direct:

When I was previously on the stand, I testified on direct examination to certain special accounts which I found carried upon the books of the Nassau Gas Light Company. In addition to those I have already named at that time, the other special accounts which I found carried in the general ledger of the Nassau Gas Light Company are as follows: Under date of September 30th, 1874, General Ledger, Folio 175, I found an account opened for Holder No. 2. The total debits on this account amounted to $59,767.74. Defendants' Exhibit No. 102 for identification. I found a reference in the minutes of the Nassau Gas Light Company having to do with this so-called Holder No. 2. In the minutes of October 20, 1874, page 84, I found a notation "Con-

tract for Masonry Work for New Tank and Holder, Lowest Bidder, Friel & McNamee, $34,300." Under date of December 30th, 1874, in the minute book, page 85, I found a notation "Contract for Iron Work for Holder No. 2 Awarded to Lowest Bidder after Proposals opened, $18,500." In analyzing this account, Holder No. 2, I found payments made at various dates to Friel & McNamee totaling $35,000. The entries showing those payments I got principally from the cash book, and there may be one or two items taken out of the journal, but the principal items are from the cash book. I also found payments aggregating $19,767,41 to J. W. Starr & Son, those being the principal items in that particular account. There are some other [fol. 2101] items. This account was later closed out and transferred to the Construction Account of the Nassau Gas Light Company under date of April 29th, 1876, Journal Folio 125, Holder No. 2 Account was credited with $59,767.74 and the Construction Account was debited with that item. I found under date of October 31st, 1873, General Ledger, Folio 163, Account opened up for coal shed. I found an entry in the minutes relating to the matter of coal shed under date of August 19th, 1873, page 61 of the minutes, I found a notation, "Plans and specifications for the erection of a coal shed as presented by the engineer were approved and bids be received for the same." The total debits to this account amount to $14,708.58, and the principal items, I might say the bulk of the items are from the cash book, all cash payments. That account was later closed out and transferred to the Construction Account under date of March 31st, 1874, I haven't got the journal folio, this account was credited with $14,708.58, and the Construction Account debited. I found the Nassau Company also carried a special account for a while for Holder No. 3. There is a reference in the minutes of the company to such a holder in the minutes of March 17th, 1885, page 280, and also in the minutes of August 18th, 1885, page 288, I found notations of estimates received from the following parties:

For Building Holder and Connections, Bartlett Hayward & Company $51,848

[fol. 2102] For Building tank, Edward Friel $58,000

Turning to the General Ledger, Folio 384, I found that an account was opened up for Holder No. 3. The total debits in this account amounted to $117,344.61, and the principal items are all from the cash book. In analyzing that account I found payments made at various times to a party named John McNamee, amounting to $63,866.03. I also found an item of $11.10 for labor and material furnished, coke, $102, and material $115.57, making a total of $63,994.70. I also found payments at various times made to the Bartlett Hayward Company totalling $51,271.97, also labor and material furnished $541.59; coke, $4.50; labor and material, $257.50; making a total of $52,048.56, those being the principal items in that account. This account was transferred to the Construction Account under date of December 31, 1886, Journal Folio 378. The total amount transferred was $117,344.61. I found another special account entitled Davis & Farnum, and also in the minutes of the Nassau Company referring to Davis & Farnum—of March 23rd, 1888, page 349, I found a notation "Contract Made for Floor, Extension of Works, $11,424.70." In the minutes of June 1st, 1888, page 352, I found reference to a contract for purifiers, $14,416. Two separate contracts, but they are in this one account under the name of the Davis & Farnum Manufacturing Company. This special account that was carried on [fol. 2103] the ledger was Davis & Farnum Manufacturing Company, and that was on Folio 295 of the General Ledger. There were two entries in this account in the year 1883, from April 30th to June 30th debits amounting to $7,339.71, and those particular constituent debits in that amount I could not tie in with the minute book but from 1888, folio 31, up to and including February 28th, 1889 I found items aggregating $26,437.13, which I tried to tie in with those items that I mentioned before in referring to the minute books. These different items in this general ledger account referred me to the cash book, and I analyzed the cash book—that is, I went through and tried to pick out what the payments were for, whom they were made to and so on. I have that right here. This account was also later closed out and transferred to the Construction Account under date of February 28th, 1889, this account was credited with $26,170.01, and the Construction Account was charged with that item, journal folio 431. The company also carried a

special account for a while under the name of Fred Bredel. There was an entry in the minutes relating to any work or authorization for work to be done by Fred Bredel. In the minutes of December 20th, 1887, Folio 342, a notation appears that a contract was entered into with Fred Bredel for $52,500 for a Kloerne Regenerative System. A contract for $52,500 is specified in the minutes.

Turning to the General Ledger, Folio 482, an account was opened up for Fred Bredel. The total debits in this account were $52,497, and all cash payments, practically all, [fol. 2104] referring to the cash book. This account was later transferred to the Construction Account; under date of February 28th, 1889 this account was credited with $52,497, and the Construction account was debited with $52,497, Journal Folio 431. There was also a special account under the name of the Whittier Elevator Company. In the minutes of February 21st, 1888, Folio 345, appears a contract for two elevators, $2,165. Turning to the General Ledger Folio 481, I found an account was opened up under the name of the Whittier Elevator Company and the debits in this account amounted to $2,150. I may say that this account was opened up under date of May 31st, 1888. This account referred me to the cash book, principally all cash. It was later transferred to Construction under date of December 30th, 1888, this account was credited with $2,150, and the Construction account charged. The Folio is 426. The company also carried a special account entitled J. H. Deeves & Bro. That was carried in the General Ledger under Folio 480. Referring to J. H. Deeves & Bro. in the minutes of February 21st, 1888, Folio 345, I found a notation that a contract was made for $23,341. This is for a bid received for masonry work, boiler house and condenser room. Under date of March 20th, 1888, Folio 348, I found a notation that this bid was subsequently increased to $25,341 on account of an error. I found underlying information identifying that. The analysis of the J. H. Deeves & Bro.'s account in the General Ledger referred me to the cash book, and I found payments at various times [fol. 2105] totalling $26,680.12 made on account of contract. There was no further information as to the character of the work specified in the cash book. It just said "Contract, Payments on Account of Contract." This account was

closed out under date of February 18th, 1889 Journal Folio 431, into the Construction account. $26,680.12 was the amount transferred. I also found an account under the name of Libby & Keese carried in the General Ledger Folio 385 of the Nassau Gas Light Company. There was a reference to these people in the minutes of the company. In the minute book, March 22nd, 1888, Folio 349 I found a contract was left for carpenter work, cokeway and boiler house. That was the extension of the works. The cokeway part of the work was $2,371, and the boiler house was $2,210 making a total of $4,581. Analysis of the account Libby & Keese shows that payments were made amounting to $5,034.85. This account was later closed out to the Construction account also under date of December 31st, 1888, Folio 426, this account was credited with $5,034.85, and the Construction account charged with that amount. I also find another special account carried by the Nassau Company for a time under the heading of Continental Iron Works. In the minutes of March 22nd, 1888, Folio 348, for the extension of works, the contract was made for roof and sundries, $14,668. I found on the General Ledger, Folio 387, that an account was opened for the Continental Iron Works. The total debit in this account amounted to [fol. 2106] $14,693. Under date of April 30th, 1889, this account was credited with $14,693, and the Construction account was charged with that amount. That is folio 435. There was another account carried by the Nassau Company entitled Henry Case. There is also a reference in the minutes to work or authorization for work to be done by him. In the minutes of January 27th, 1888, page 344 I find a notation of a *notation of a* contract for $9,958.20 for piling. In General Ledger, Folio 382, under date of March 16th, 1888, I found an account was opened up in the name of Henry Case, the total debits in this account amounting to $8,873.49. Under date of December 31st, 1888, this account was credited with $8,873.49, and the Construction account was charged. That is folio 426 of the journal.

There was an account carried in the General Ledger folio 273, under the name of Smith & Sayre Manufacturing Company. I found an entry in the minutes of the Nassau Gas Light Company with reference to Smith & Sayre. The minutes of February 21, 1888, folio 346, I find a contract

was made amounting to $16,187.00 for scrubber, condenser and connections. Under date of October 31, 1888, this account was opened up in the General Ledger and the total debits amounted to $16,792. I traced this right through to the cash book. There is a small item here through the journal. Under date of February 28, 1889 this account was credited and the Construction Account charged. There is [fol. 2107] also a special account in the name of J. & J. Van Riper. It appears on General Ledger, folio 277. The minutes of June 1, 1888, page 352, show a contract for stable and mason work was made for $3,780. In the ledger, under date of August 31st, the account was first opened up, and the total debits amount to $3,780, all cash. I found entries which I could identify in connection with this—all in the cash book. Under date of December 31, 1888, this account was credited $3,780, and the Construction Account charged. The folio was 426. There was another special account there by the Nassau Company entitled "S. M. Randall." The minute of June 1, 1888, folio 352, referred to him. The contract was made for carpenter work, stable amounting to $3,795. The total debits amounted to $3,831.70. Under date of December 31, 1888, Journal folio 426, this account was credited with $3,831.70 and Construction Account charged. The Nassau Company also carried for a time a special account entitled "Water Gas Plant." I found an entry in the minutes of the Company with regard to the construction of the Water Gas plant. The minutes of July 8th, 1891, folio 425, proposals were received for building new works, the following bids were contracted. Bartlett Hayward & Company, gas making plant, $158,400; Bartlett Hayward & Company Iron Works, for buildings $13,792; E. D. White & Company, new benches, $7,000; J. P. Whittier erecting new benches, $2,661; I. H. Deedes & Brothers, Mason Work $38,560; T. A. Davis, Carpenter work, $7,272; I. T. Walsh, piling per pile, $4.47; New York Roofing Company, roofing $4,000; I. H. Williams, painting $875. [fol. 2108] The total of all those bids was $232,560. Referring to the General Ledger, folio 535, under date of November 30, 1891, I found an account opened up for Water Gas Plant. The total debits to this account amounted to $250,391.43. In analyzing this account, which analysis concerned principally the cash book, I find that the following

payments were made to the different contractors at various times. Under date of April 30, 1893, this account was credited with $250,391.43 and the Construction Account was charged with that amount. That is folio 524. I refer to certain payments made in connection with the Water Gas Plant. I find that payments were made to: Bartlett, Hayward & Company for $171,992.36. In addition there were two small items, one for $162.89 for lead, and $7.53 repairs, making a total of $172,162.78;

E. D. White & Company	$7,118 45
J. P. Whittier	2,636 00
I. H. Deedes & Bros	38,311 63
T. Davies	7,701 69
I. D. Walsh	7,406 79
New York Roofing Co	4,000 00
I. H. Williams	1,048 13

making a total of $240,385.47. All of these special account-that I have referred to, I was able to tie up with the minutes. I found three additional special accounts kept by the Nassau Company, to which I was not able to find any references in the minutes of the company. Under General [fol. 2109] Ledger folio 78, an account opened by J. H. Whittier, special contract. The total debits were $4,170.26. Under General Ledger folio 87, E. D. White, General Ledger folio 47 Jesse W. Starr & Son. I analyzed those accounts. The underlying data was principally the cash book for J. H. Whittier and E. D. White. Entries in those books showed the nature of the work performed by these people. I find in the account of J. H. Whittier, an analysis of the cash book, payments, I find labor, $900 and $700, and I find $370.26 material purchased for setting benches, et cetera, and I find $1,300 and $600 materials furnished. E. D. White, I find there principally cash payments and an analysis of the payments showed $5,000 material, $5,563.07 materials furnished, $3,289.05 retorts furnished, consisting of retorts furnished $3,000, construction $289.05. Then I have an item $2,698.40, consisting of $1,561.60 retorts, firebrick, as per statement December 1st, $740.15 retorts, fire brick as per statement of December 31; $391.65 retorts, pile, et cetera as per statement January 5, 1875. The total in this account is $13,852.12, which was transferred to Con-

struction under date of May 31, 1873, Journal folio 34, and $2,693.40, which was transferred to Construction at various dates that is, December 14, 1874, Journal folio 81, $1,561.60; January 14, 1875, folio 86, $740.15; February 22, 1875, Journal folio 88 $391.65; total $2,693.40. The third account is Jesse W. Starr & Sons. I also found in the cash book showing the nature of the work performed by that [fol. 2110] company—the principal items. This account, I may say, was opened up under May 26th, 1875, and an analysis of the account showed that under date of May 26, 1875, the account was credited with $4,336.74, and holder No. 2 was charged with $583.35 for, I don't know whether it is length or feet—25—16 inch pipe, 31,873 pounds at $43, $583.35; another item 40—3 inch pipe, 35,334 pounds at $34, making $694.06. The principal items were charged to holder No. 2; under date of November 24, 1875, account was credited with $5,863.26 and holder No. 2 was charged. That is folio 112, and I find that there was a cash payment made for this same item on December 31, 1875, and the explanation was "Balance on Holder No. 2." The only reason I took off this particular account was to trace it into the holder. I also found a reference in the minutes of the Nassau Company to the creation of an auditing committee. The minutes showed that that committee was created. At a meeting of the Board of Directors held on March 16, 1871, page 9 of the minute book, the President of the company nominated the following directors as the auditing committee: White, Lowery and Beers. I was unable to locate any report that auditing committee later made in regard to the books of account of the Nassau Company but I found notations in the cash books of the company, the Nassau Gas Light Company, every month that the account was examined with vouchers and found correct; and I also find that every item in the cash book was checked in pencil, check marks, debit and credit side.

[fol. 2111] There was an ammoniacal tank mentioned in the question Counsel asked, and I have not testified to that. I did not specifically refer to it but I examined the books and records in regard to that.

From my examination and analysis of the books and records of the Nassau Gas Light Company, with particular reference to the expenditures for gas, holders, benches,

chimneys, retorts, Kloerner generator system, coal shed, ammoniacal tank, station meters, condensers, scrubbers, stable, purifiers and water gas plants, and also the analysis I made of the Construction Account of the Nassau Gas Light Company that substantially all of the costs of the plant and gas works are in the Construction Account.

In my examination of the books, I found items in the Construction Account for salaries of engineers. On analysis of the Construction Account, I found payments included that were the salaries of F. S. Benson, the engineer, amounting to $5,794.92. That was the only specific reference I could find for salaries in connection with engineering work. There is a notation. There is one particular item I will refer to. In the Construction Accounts under date of December 31st, 1872, I find the salary account was credited with $5,187.42, and the Construction Account charged with that item. That is Journal folio 25 and the explanation was "Salary of F. S. Benson, charged in error to account of Salaries." I haven't got the specific page, but I know [fol. 2112] there is references throughout the minutes to Mr. Benson being the engineer, and I know there is a salary mentioned. What it is I do not know; I did not make a note of it. I found that the salary is fixed in the minutes and then later on there are other notations where he has increases, but the minute references are the minutes fixing Mr. Benson's salary. As I recollect they do not state any reason why it is to be charged to any particular account. The account was just stating that the salary of Mr. Benson would be so much per annum.

I prepared practically all of Defendant's Exhibits 98 to 131 inclusive, for identification, except 104, which I checked the totals of with the adding machine. That is, I have taken totals off from a trial balance book, making up exhibit 104, but all the others I outlined, laid out and practically checked and made them up. I had an assistant with me on the job. They are based upon the books and records of the Nassau Gas Light Company, which I stated when I was first called to testify in this case. In my judgment these statements and tabulations shown on Exhibits 98 to 131 inclusive, for identification are correct. They are taken right from the books of the company. I made them up and the

ones that I did not make up I checked. That was more than a spot check.

Mr. Deegan: I offer those sheets in evidence. I will this. My main purpose is that they are tabulations taken from the books and whilst I realize the books are already in evi- [fol. 2113] dence, still I think these are a convenience to the Court and to Counsel.

J. J. Welsh

Preliminary cross:

I endeavor when I make an analysis of any company's books, I get as much detail as possible from the books. On sheet 1 of Exhibit 98 are the words "apparently used in connection with pile work." "Apparently used in connection with pile work," is not a quotation from the books. It is my own assumption and my conclusion. Those words are my own comment. Referring to the page where I have "Rowland" and then in parenthesis "Holder No. 1" and a question mark, I did not find "Holder No. 1." I just found "Tank and Holder." That is the explanation of that amount. The matter in the parenthesis is mine. The note on sheet 3 at the bottom and middle of the page are mine; that is not a quotation from the ledger. Mr. Welsh and Mr. Goodman combined. We tried to tie up, that is my comment. That isn't true, that throughout I have put on comments and notes and my conclusions from what I found in the ledgers and the other books on practically all of them. I have not done it on every exhibit. Portions of this are not in my handwriting, not personally prepared by me. Of course, 98, that is No. 1 you are referring to, this particular one does not appear in my handwriting. That is [fol. 2114] Mr. Goodman's handwriting. He was one of the men on the job, but I assisted and checked up the items on this sheet. That is not in my handwriting, and we tried to get together on the memorandums that were made in there ourselves. Mr. Goodman wrote the notes on Exhibit 98, Sheet 3. I mean he and I agreed on what the notes should be. We adopted them. I checked substantially all of the figures on the Exhibits prepared by Mr. Goodman to the ledgers and from the work sheets that we had with us.

J. J. WELSH

Direct:

I do not know that there is a real difference; there are very few comments on some of these exhibits. The memoranda appeared on Exhibit No. 98 for identification.

J. J. WELSH

Cross:

I have testified here as an accountant in a professional capacity, and approached this subject as an accountant. Suppose I were employed by a prospective purchaser of the Nassau Gas Light Company and made an audit as an accountant of these books that I have examined in this case, I would report to my client that these books contained the actual cost of the property as it existed on November [fol. 2115] 4th, 1895. Assuming that my client tells me that he is interested in a possible purchase of the property and wants my advise as to whether in making up his mind what he is going to pay, he shall take these books as showing the actual cost of the property as it existed on November 4th, 1895, for I would tell him they did. I am referring to the items to which I referred during my direct examination. I excluded real estate services and meters and street mains, and so forth. Suppose I have a client who is a prospective purchaser of the Nassau Gas Light Company—the whole thing of course he would be going to purchase. He comes to me and tells me to make an audit of the books, the same books that I have examined in this case, and then he asks me my opinion whether those books disclose the actual cost of all the property as it existed on November 4th, 1895. I would say yes, except Real Estate and Street Mains and Services. That would be my answer. I would confine my statement that these books show original cost to what is generally known as a plant, or gas works, in other words. I believe the term is synonymous. In my examination of gas companies I have come across items called "plant." I mean the same thing by those terms. I had in mind the plant of the Nassau Gas Light Company as referred to in the Construction Account, covering a period from 1871, up to and including November 1895, as far as the Construction account

showed debits in there for expenditures made for such equipment or items. I mean upon each particular day and at the end of each particular week and month and year [fol. 2116] from 1871 to 1895 the actual cost of what I call the plant is shown in these books, as the plant existed upon that day in so far as the expenditures are recorded. Before I commenced my work in this case, I examined the books of a public utility kept prior to 1895. The Northern Westchester Lighting Company, which is a consolidation of about five subsidiary companies, if I recollect, and the time was prior to 1900. I wouldn't be positive, but I think that is the same situation. That is the only company outside of when I was employed by the United Electric Light & Power Company I looked at some of their old ledgers, and that is about fifteen years ago, but they were kept prior to 1895; by looking at them I don't mean examining them with any such care as I examined the books of this company. There was certain information I was trying to get at that time and I had recourse to those old books. I did not find in the books of this Nassau Gas Light Company transfers from the Construction account to Profit and Loss; credits to Construction and charges to Profit and Loss. I recall testifying concerning what I called the St. James Work Shop and Stable. We had nothing to do with the Construction account itself.

As to the St. James Place Work Shop & Stable constituted Fixed Capital, I cannot reconcile my idea of Fixed Capital in regards to what I had in mind when I said the books contained the Construction expenditures. I did not consider that a Construction expenditure. My reason for [fol. 2117] taking off or making a statement about that St. James Place Work Shop was that I wanted to verify to my mind that this company endeavored to keep its books in a clear and concise business like manner, and I particularly took that account off because it agrees with up-to-date accounting methods, and that is where a piece of ground or land is leased for a number of years and there is no possible way of the company acquiring that for its own, it is good accounting practice to charge off each year over the period the party has for the lease, the cost of the buildings on that where the land reverts to the original owner.

That property owned by the Brooklyn Union Gas Company now, not to my knowledge was it owned by the Nassau Gas Light Company before the purchase of the Nassau. I came across an item where they made a lease with William Hunter for so much, for $250 per annum. They put a building on that land. If my investigation doesn't go far enough to enable me to answer the question, assuming that they later purchased the land, the building would then become an item of fixed Capital. If the Nassau Company owned the land, this whole item of the building went into Profit and Loss. I did not find any correcting entry later, putting it back into Fixed Capital. I did not concern myself with that particular item. I used that account simply for that purpose and assumed that they never did buy the property, or treated it as if it never had been bought. If I was positive all were shown that they really owned the land on which [fol. 2118] that building was erected, it would be proper accounting to restore that to a capital account. If you got through the records, I think you will find they bought another pieces of property. I have examined the expense accounts of this company but I did not make any detailed analysis. On my examination I satisfied myself that there is no charge in the expense accounts which properly belong in the capital accounts. I went through your cash books from 1871 up to 1895 and examined every entry in the cash book that referred to expenses and was contained in any expense account, such as salaries, shop expenses, and different other accounts. In looking through the general ledger I found that the bulk of the expense accounts, debit charges, all came or practically all came from the cash book. In going through the cash book I satisfied myself that an endeavor was made to segregate construction expenditures from expense items. One item, the salary of Mr. Benson, as he was the engineer of the company, the superintendents of plants are often called the engineer of the plant. Some companies have that practice but others have not. I don't know that Mr. F. S. Benson was for years superintendent of the Nassau Plant. As I recollect, I believe there is a notation made in the minutes of the company that Mr. Benson was employed for the Construction of those works, that came up as an original employment. Furthermore, I believe that he was a member of an inspec-

ion committee that visited different cities getting an idea [fol. 2119] of different gas plants, such — Newark, Providence—I don't know the other cities. I don't recollect I named Mr. Havens being mentioned as an engineer. It may be in the minute book but I have no recollection. It states on page 10 of the minute book, the minutes of April 18th, 1871, that the engineer Mr. Benson was present with plans for the new gas works drawn under the direction of Mr. Havens. I remember that, but I remember Mr. Benson was concerned with the works. I don't remember that name. I didn't pay any particular attention to that name Havens. I didn't find any. I don't recollect. As I said before, I believe that Benson was a member of the inspection committee that had charge of the construction of the works. The first item I have here in my construction analysis is under date of June 1st. There is included an item for cash $216.73, and there is $24.14, in there "F. S. Benson." I didn't make any notation of the dates. I will have to refer to the cash book. It is June 30th, 1871. That is my impression from what I gathered from reading the minutes that at that time $24 was charged to Construction and at that time he was engaged on construction and going about all over the country. That may not be all of that charge. I have another item. That was in that particular year. I think it was around $2,500 if I am not mistaken, under date of December 31st, 1872, there appears in the Construction Account an item of $5,187.42, and the early account was credited—that is the journal folio 25, and the explanation [fol. 2120] was "Salary F. S. Benson, charged in error to account of salaries," $5,187.42. December 31st, 1872, this adjusting entry was made. I have one or two other items. Under date of March 31st, 1873, included in the item of $7,200.74 cash there appears a payment made. I have it here "F. L. Benson, $291.68." Under date of January 31st, 1873, included in the item cash $3,450.02 appears the item "Salary F. S. Benson $145.84." Under date of February 28th, 1873, appearing in the item $5,096.43 cash" appears "F. S. Benson salary $291.68." There is nothing in the minutes which I quoted with reference to Holder No. 1 to show that the contract price with Rowland covered the complete cost of the holder. In the minutes of March 19th, 1871, page 26, I believe you will find mention of a contract

for tank and holder, T. F. Rowland $102,000. That was the first item, but there were other items after that totalling—including that $5,000, totalling $101,762.74. The first payment that I find after the making of the contract is a year after the contract was made. I have an explanation for that. I believe you will find in the minutes that the work was postponed on the construction of the original works. I don't know what page in the minutes that is on, but I came across that notation. They decided to hold the work up. I do not know whether this contract of Rowland's covered connections with the holder, but it may be included in the statement he rendered on August 20th, 1873, for extras. The statement is in the journal, Folio 41—[fol. 2121] $577.50. All it states is simply "extras as per statement." I cannot tell from this journal or any other books that I had, what it is for. I did not include Folio 25, a charge to Construction, the first entry there—$11,866.46, in the cost of the holder; that is in my exhibit for identification No. 129, I just left in the Construction account as I found it, but I made an analysis of it. Where a holder is mentioned in the Construction account, in my opinion the Construction account contains substantially the whole cost of that holder. After it is transferred from the special account that was set up and into the Construction account, any other items that may be in there give*n* you the cost of the whole construction expenditures. That was my idea. This item in the journal that is a transfer to construction from Street Mains on folio 25. It doesn't give the price per foot. It gives the total cost. It says, "227 feet 6 inches of 20 inch main, $942.07.". If you divide the dollars by the feet you get 4.14 per foot. That is the average price, but whether that is the actual cost per foot or not, I don't know. In this particular entry it doesn't mention the actual price per foot. That is, in my opinion it is impossible to tell the actual cost from any such entry as this; it only gives you an average cost but it will give you the total cost for the pipe. I can give the average price per foot by dividing the average cost. I haven't figures out the average price per foot in that [fol. 2122] entry for two runs of the same size pipe is almost a dollar apart. The following appearing in journal, folio 25, "Brooklyn December 30th, 1872" is as follows:

"Folio 9, Construction debit.

"Folio 42, two street mains," appears the following detail:

" 227 feet 6 inches	20 inch main		$942 07
" 239 "	8 inch	"	313 09
"94 "	6 "	"	84 13
"1050 "	20 "	"	9,446 10
"1814 "	3 "	"	798 16

Then appears the following:

"Cleaning streets from works to holder	87 66
"Bends, tees, &c.	195 25
"Total	$11,868 46

Q. Now, you examined and took off that entry?

A. I have that, yes, sir.

Q. What did you assume that entry was for?

A. To be honest, I didn't pay any attention to it. I just took the analysis and put it in the Construction account as it appeared. I haven't any opinion what it refers to. An engineer may tell, from the information which was at my disposal, what that or items similar to it mean or apply to. An accountant can assume, but he cannot say what it [fol. 2123] is. It is possible for *as* an accountant to state that these books contain substantially the cost or the actual cost of this property. In my opinion I belive the books contain costs, which goes to make up the whole account.

[fol. 2124] The Brooklyn Union Gas Company

Brooklyn, New York, July 15, 1924.

P. B. Wiske

Direct:

I am the manager of the New Business Department of the Brooklyn Union Gas Company. The business conducted in the old office building on Remsen Street. It is spread over quite a bit. The offices are under my supervision and are the branch floor sales offices, located in the various

branch offices, The Brooklyn Sub Branch, I have forgotten the number, but it is on Myrtle Avenue, it is near Clinton Avenue. The Citizens Branch on Atlantic Avenue, is the old building out on Atlantic Avenue, near Ashford Street; The Citizens Sub-Branch on Fulton Street; The Nassau Branch, 1024 Fulton Street Metropolitan Branch at Fifth Avenue and Eighth Street; Metropolitan Sub-1, on Court and Union Streets; Metropolitan Sub-2 Fourth Avenue and 48th Street; The Williamsburg Branch, on Bedford Avenue and south Second Street; Williamsburg Sub-Branch on Myrtle Avenue and Himrod Street and the office, of course, located at 180 Remsen Street and 176 Remsen Street.

They sell gas appliances at these various branches and they have them exhibited there for sale. There is some man located in each one of these branches who has that work to do solely. We have a man who devotes his entire time and attention to the selling of appliances at these various branch offices. We have to do with the selling of the appliances to the subsidiary companies.
[fol. 2125] We sell them or, rather, they buy the appliances from us at the same price we buy them for. The sales policy of the men who sell the appliances for the subsidiary companies are under my jurisdiction and supervision, but, the men who actually do the selling are under the various branch managers.

The work I do for the subsidiary companies relative to their sales policy, that would be the selling process; we buy the merchandise and ship to them as they need it. It may be both, requisition upon us for certain quantities, or they make requisition upon us to fill a given sale or a given order which they have taken. If they have a special order they may make a requisition for just that one order, but where they have a stock or a quantity they make a requisition for a quantity. Some of these appliances are kept where they are ordered, we keep them in Brooklyn at 1024 Fulton Street. Then if they should want to buy stock from us, it is shipped out from 1024 Fulton Street to the subsidiaries, each one of the subsidiaries has a sales force and an exhibition room. All the subsidiaries buy from us. We have an assistant manager, named R. H. Staniford. He has been with the company for some time.

The amount of salesmen we have at the Brooklyn Branch is variable. Roughly, we probably would have four or five. It varies because we put them on during the summer months. Our business peaks up, and then, too, we use that as sort of a training school for the men preparatory [fol. 2126] to going with the other branch floors. We have an outside sales force which solicits outside. Aside from those four or five men I mentioned these four or five are located in the sales floor. The average number of outside men we have selling is a variable quantity, because we have campaigns that last for a short time and they would be considered outside men. I suppose the average over a year would be, including the Industrial Division, probably thirty-five men. Each division is paid in a different way. They are generally all paid on commission.

We have the industrial force which is outside, and we have these various campaign crews that come on from time to time, and then we have a regular outside domestic sales force, and we have the branch floor sales forces. Each one of those different divisions has a separate form of compensation. The largest permanent force is the branch floor sales force. These men are inside men. The largest permanent force would be the Industrial Division. I have under my charge and supervision the advertising for appliances. I designate the various papers in which that advertising shall appear, in a general way. We advertise in a great many papers. A good many of the papers have a circulation throughout the territory of the subsidiaries.

We never have engaged in much advertising until a year ago, and here sometime ago we put in an advertisement of a small article which was to the effect that if the reader [fol. 2127] would return the advertisement with 25 cents we would forward them this small article, with an idea to see what and where the returns would be. We received, I think roughly one hundred returns, and this was in Brooklyn papers only.

Of the 100 there were at least 25 per cent., that came from all over Long Island, a portion of New Jersey, and the day before yesterday I had one from Missouri. It is difficult to say just exactly where the value is and how widespread its effect is, and I don't know that that is a true test.

I formulate the advertising and write most of the copy myself. Aside from the four or five who are on the floor selling in Brooklyn limiting it to employees located in those premises, who have to do with the appliances. I should say that roughly there would be fifty or forty-five. We have the price records to keep, warehouse stock records to keep, requisitions, the commission records which are paid various salesmen, records of inspections, service records made in the case of the industrial consumers, records of the industrial appliances which we have sold, and so on; general statistical records that have to do with the performance of the work and it takes, roughly, that large force to keep those records of the subsidiary companies. They keep some. They keep track of the stock which we send them and probably have the record of the industrial appliances which are in their territories, as far as they can keep it up. I have nothing to do about allocating any of the expenses. [fol. 2128] I don't know how the expense of carting an appliance from our Fulton Street Warehouse out to the subsidiary company is handled. I keep the records of the time of my own employees. I know how that is handled, whether there is any division made in any way between the subsidiary companies and the Brooklyn Union. If they are engaged in the subsidary companies' work, their time is charged to the subsidiary company. I don't know about when they are out in the territory of the subsidiaries. I am speaking of the employees of the Brooklyn Union. Their own salesmen are carried on their own payrolls. The subsidiaries' own salesmen are carried on their own payrolls. If a person from the Newtown District should come in to buy a gas appliance from us in the Brooklyn Union office, the Brooklyn Branch, our salesman would sell that appliance to him.

It would not necessarily be taken out to the subsidiary company's territory. We might forward the order out there and have them deliver it, but, if they didn't have it on hand we would order it and send it out to them. Even though the sale is made in the office of our Brooklyn Branch, that sale is credited to the subsidiary company, just as if it was purchased in their office.

I have been with the Brooklyn Union Gas Company for thirteen years, and I have been in my present position for

about five and one-half years. Previous to that time I was in [fol. 2129] this business. I was in the Shop Distribution Department of the company. I did not actually have any prior experience in salesmanship. Previous to my connection with the company I went to college before I came with the company. I knew practically nothing of salesmanship, but, I knew something of it, as I had always studied it. I have not taken any special course, except of my own volition. I mean that I have always studied advertising and salesmanship whenever I had an opportunity to. I did not go in the Shop Distribution Department. I was in the works. I was there for five years. Then I went to the Stock Distribution Department for about two and a half years. I may have these halves of yours mixed a little bit. When I was in the works, I was assistant to the superintendent of the works. I had to do with the making of gas. After I left that I went with the Shop Distribution Department. There I had to do with the meters, installation of gas appliances, and the records of the appliances, and at that time the purchasing of the appliances. The distribution of the activities was a little bit different at the time I was in the shop than it is now.

At that time they did not have any new business department. The New Business Department was not as distinct as it is today. I recommend the purchase of the various appliances. That is, they follow my suggestions as to the character of the appliance. I think our registers show the cost of all the appliances that I sold during the year 1923. I have not our gas appliance record here with me; the records are all kept in the auditing department.

[fol. 2130] I don't keep a gas appliance record book myself. The book isn't outside, to my knowledge.

Referring to Gas Appliance Book No. 6, I think we supply the data for Mr. Payne from which that book is compiled. I wouldn't care to say what the cost was of all the appliances sold by the Brooklyn Union Gas Company in the year 1923. This is the first time I have seen this book and I don't know just exactly what it all means. I might get the figures here in the book and I might not.

Our department does not send to Mr. Payne a report in just the same form as these pages. I imagine this is a compilation, if it is made from our reports. We send to Mr.

Payne the kind of reports that he requires, that he prescribes. There are quite a great number of reports that we get up.

Confining myself particularly to the question of costs of various appliances which have been sold throughout a given year, we sent those reports monthly to Mr. Payne. I imagine we would show the cost of the appliance sold, for instance, or the cost of the appliances that had been returned to stock and such information as that. Then the total figures are compiled by him at the end of the year, and I don't know anything about that. That would, probably be an addition of the figures that we report as costs. I report to Mr. Payne also monthly the sales prices and the amount of the outstanding, for instance; the installment accounts outstanding, and the amount of cancellations, merchandise returned to us, merchandise purchased.

[fol. 2131] Gas Appliance Record No. 6, is marked now Defendants' Exhibit No. 163 for identification.

(Book marked Defendants' Exhibit No. 163 for identification.)

I report, purchase price of the appliances each month. I personally, do not make up the report myself. The reports showing the cost of the appliances pass through my hands. I am familiar, reasonably, with the figures showing the cost of the appliances, month by month, throughout 1923. By reference to the book, I could not recall that.

I don't think we make an annual statement showing the cost of appliances throughout the entire year. I think all the annual statements are made up by Mr. Payne's office. I think Mr. Payne renders us a report as to the gross profit from our sales. That is the difference between our purchase price and our selling price.

I can only give you a rought figure as to what the gross profit on the sales of appliances during the year 1923 in the Brooklyn Union was. I should say it was about 32½ per cent of sales. I cannot state the figure of our gross sales. I could not state it, even by refreshing my recollection from the book. As to what the cost of the appliances was which I obtained on the sales, would simply be a guess.

I also rendered a report showing the cost of the appliances sold to the subsidiaries in 1923. That would show the report of merchandise shipped to them and I made that report to Mr. Payne.

[fol. 2132] I cannot tell from the books as to how much the cost of appliances was as reported sold to the Newtown, Jamaica or Flatbush Company during the year 1923. I should say that the gross profit of the appliances sold to the subsidiaries in 1923 would be about the same. I have nothing here to refresh my recollection to vie any exact figures pertaining to that. The reports Mr. Payne renders to us at the end of the year relative to the conduct of the Business Department, are mostly in the form of statements, just made up memorandum statements.

I imagine that would be a compilation of the figures that we supplied him. Of course, there are other things in those accounts that do not concern us. I have nothing to do about the work of installing the appliances. That doesn't come under my jurisdiction, except in the industrial end of the business.

We purchase our stoves from a great many, the chief ones from whom we purchase them are, The William M. Crane Company, the George M. Clark Company; the Baltimore Gas Appliance Company, the General Gas Appliance Company, the General Gas Light Company; the Robertson Mander Gas Stove Company, and there are a great many others. Those are the largest ones. There are a great many others I could name. These people that I mentioned are all manufacturers of gas stoves and I recommended the purchase of stoves from those different manufacturers. I have nothing to do about recommending the design of the stoves in any way, except in so far as established by our conferences.

[fol. 2133] Referring to Defendants' Exhibit No. 164 and No. 165 for identification, being gas cock, that go on the gas stoves, I couldn't say whether Defendants' Exhibit 165 is the older of the two. I could not tell positively whether the gas stoves that we order are equipped with those kind of cocks, either one of those two types in a general way. I am not familiar enough with the gas stoves to be able to tell. I could not tell you exactly what kind of a cock each stove has. We sell a great number of them in the course

of a year, but I would say generally speaking, it is of those two types.

I don't know which is used to the greater extent on the stoves which we purchase, the one shown as Exhibit 164 or the one shown as Exhibit 165.

Speaking of Defendants' Exhibit 164, the disadvantages of a type such as this are that the consumer might undertake himself to make adjustments that would render inefficient operation. The one shown in 164 has an adjustable orifice that the consumer or user might undertake to make adjustments himself that he was not qualified to make, that would render inefficient operation of the appliance and as to 165, the lik-lihood is not so great, because the orifice is fixed. The only advantage of 164 over 165 would be that slight adjustments might be made within a small operating range of adjustment. We have stoves with this appliance, that is of the type 164. They were purchased on my rec-[fol. 2134] ommendation. I do not think that most all of our gas stoves now have that character of appliance like 164. I don't know that these are Crane appliances. I am unable to say which appliance is used to a greater extent, recommended by me for purchase by the company, whether Defendants' Exhibit 164 or Exhibit 165. I think generally speaking, I would recommend the purchase of a stove with one character of appliance as readily as I would the other, because the advantages and disadvantages are not very well marked in my estimation.

The fact that they had this appliance on it known as 164 would be rather immaterial from my point of view. It would not be a selling point with the stove in anyway. I think I would look to other advantages or disadvantages aside from the two cocks. In recommending the purchase as to how the majority of the cooking stoves purchased by us are equipped, I would say—it would be simply a guess on my part to give an exact proportion. I should say it would be fifty-fifty. When you get into gas irons, you have a fixed orifice, and in heaters there may be fixed orifices or variable orifices, and so it goes through the whole line.

I think the Crane and the Clark stoves have the adjustable orifice. The name of the stove is The Vulcan Stove and the Clark Jewel. That is, the Crane people make the Vulcan and the Clark people made the Jewel.

I cannot say that the Richmond Hill and Queens and the Woodhaven Company had no separate business department [fol. 2135] in the year 1923, but that the Jamaica Company transferred to them.

Mr. Cummings: I offer in evidence, if the Court please, Defendants' Exhibit 163 for identification, being a gas appliance record No. 6 of the Brooklyn Union Gas Company.

(Received and marked in evidence Defendants' Exhibit 163.)

P. B. Wises

Cross:

These things I have shown are cocks. I do not choose gas stoves for their cocks.

[fol. 2136] Benjamin Cohen

Direct:

As to Defendants' Exhibit 167 for identification I made that computation. The figures in the first column "Gas Merchandise and Jobbing Revenue" I took from the Company's books and records, one of which was put in evidence this morning, that is their gas appliance record. The figure in the second column "Promotion Expenses, et cetera" I took from the Company's books which show the amount of their promotion expenses; that is their general ledgers, using the trial balances. The figure in the third column, the per-[fol. 2137] centage of 21.153 per cent is the ratio which the 72,992.39 in the first column bears to the 345,073.58, and the 78.847 per cent below it is the ratio which the 272,071.19 in the first column bears to the 345,073.58. The last column I made up by taking 21 per cent, which was the first figure in the last column, 21 per cent of $296,181.49, which is the total promotion expenses for the System, which gave me the 62,651.27, and the 233,530.22 underneath it is 78 per cent of the 296,181.49 in the second column.

There are several items appearing in the company's ledgers under the general heading Promotion Expenses and these figures are the aggregate of those items for the period that I examined—the year 1923. The amount of

the gross profit which the company makes on the sale of its appliances. I would like to make a correction right here. I noticed the title in the first column has the word "Jobbing" in there. That should not be in that title there, but should be "Gas Merchandise Revenue." And the words "And Jobbing" should be stricken out. That represents the gross profit from the sale of gas merchandise as shown on the books of the Brooklyn Union Gas Company. By the gross profit, I mean the amount derived from sales, less the cost of the appliances; there are some discounts taken off there.

The figures in the second column, "Promotion Expenses," are obtained from the books of the Company, and are the sum of the expenditures under various accounts called Promotion or under Promotion Expenses.

[fol. 2138] In the third column "Gas Merchandise and Jobbing Revenue" "Jobbing Revenue" should be deleted. I have deducted all revenue as shown by the books of the company from the jobbing business.

BENJAMIN COHEN

Preliminary cross:

I only say I believe it to be correct.

The figure for the Brooklyn Union I obtained from a record entitled "Gas Appliance Record" which was in Court here a little while ago this morning, just put in evidence. The figures for the subsidiary companies I obtained from one book in which those all appeared, one of the items in which is also the Gas Appliance Record. There are seven other items in that particular book. It contains some items on Services, on mains and so on which of course, I did not use. The name of the book from which I took the figures opposite Newtown, Flatbush and Fourth Ward Companies, I think is called a statistical record. It is a book headed the same way, that is for this information as to appliances, as the Brooklyn Union book is headed, the same headings and the same columns. It is a book for the subsidiary companies similar to the Gas Appliance Record which went in evidence. These figures appear as they are at various parts of that book for the subsidiary companies. I did not make any additions or deductions from the figures shown on

[fol. 2139] that particular book. These figures, in other words, in the first column as such in the book from which I took them, and I merely transcribed them, appear under the title of Gross Profits on that particular sheet, and they are carried on that particular sheet they appear as gross profits on appliances.

My recollection is that "Gross Profit" is the particular heading of that particular column in which they appear. I left "revenue" in. Gas Merchandise and Jobbing Revenue, is the title of an account. There is no such title of any column, as "Gas Merchandise and Jobbing Revenue" in there. All that is shown in there is gross profit which, of course, the column itself is meaningless, because it does not show what the gross profit is on unless you take the entire book and see what the book itself treats with. In other words I took these figures from a column headed "Gross Profits," without knowing what they referred to. If I saw an item of gross profits in any book I would look to see what the gross profit was on by looking at the particular kind of profit that is treated in that particular book. All the book requires in my opinion is to look at the cover to see. I do not think the sheet from which I took these figures requires analysis.

That column itself of Gross Profit was meaningless, but when taken in connection with the entire page or entire book it shows it is the gross profit on appliances, which is the gas merchandise revenue. It requires a meaning when you take and look at the book and see what the particular page [fol. 2140] or the book itself treats with. I have taken a column which standing by itself is meaningless. I am speaking of the figures found originally in the column "Gross Profit." I have given them a name which I know is representative of the revenue which is so treated in that book. The name which I have put upon these figures represents also the company's opinion because the same figure is carried into the account entitled "Gas Merchandise and Jobbing Revenue," and the Gas Merchandise Revenue. I changed it back to the book.

In this account, "Gas Merchandise and Jobbing Revenue" also goes some jobbing work. That is, profit on jobbing performed. I did not investigate the nature of it because for my purpose the way I went at it, it was immaterial

what it represented. I did not so consider it, because I never took it into account by going directly to the book which gave me the full merchandise revenue. In the particular book that I used, the jobbing revenue did not enter into any column of the book at all. I mean by that, that the jobbing revenue was not found in the book at which I looked.

I did not look any further to see what was in the book which treated solely of the Gas Merchandise Revenue, because that is all there is in there. Now, if I looked into the ledger and went to the account because there was a jobbing revenue which bears both ways in that book, and also what the company gets from jobbing, I would have had to analyze [fol. 2141] the account in order to arrive at the gas merchandise revenue only. But going to the book which contained nothing else but the Gas Merchandise Revenue, I did not have to bother about anything else at all. I did look at the account Gas Merchandise and Jobbing Revenue several times during the progress of the work in connection with the work that I performed on this exhibit and other work as well. The figures found in the Gas Appliance Record and which are transferred to our Exhibit 167 for identification ultimately find their way into that account in the books entitled "Gas Merchandise and Jobbing Revenue." I did not analyze the figures appearing in the account "Gas Merchandise and Jobbing Revenue." All I did was to make sure that the amounts appearing in the book, which is the Gas Merchandise Revenue Account found their way into the Company's ledgers to make sure that these amounts were in there. What else was in there in the Gas Merchandise and Jobbing Revenue account in addition to this I did not analyze. I do not know what else is in there, but I know what ought to be in there.

"Promotion Expense, et cetera," are the sundries accounts as I recall them that are included in there are the promotion Management and Advertising, the Commissions on Appliances, I do not recall them all (examining paper). The accounts are Promotion Management, Demonstrations, Promotion Office Expenses, Advertising, Canvassing and Soliciting. I had the ledgers for those figures appearing [fol. 2142] in that column opposite, Newtown, Flatbush and Fourth Ward companies. I used both the companies re-

ports to the Commission and also the subsidiary companies' books. For the report to the Commission I used the reports of the Newtown, Flatbush, Jamaica, Richmond Hill, Woodhaven and Brooklyn Union. I used them to check up on the figures I took from the companies' books. My progress was the first to take the figures from one source and check against the other. I used the report to the Commission to determine whether I had transcribed the figures correctly from the ledgers.

These figures appear here in total form; the ledger contains them under the accounts that I just read off. These figures here in the column headed "Promotion Expenses, et cetera" the totals of the various accounts that I read off, are the sum of the various accounts which I believe the trial balance book also gives in sum totals. The figure opposite the Newtown Company is the sum of the balances of all the accounts that I read off to me. If there were any charges to those particular accounts. Some of these companies, the small companies, did not have any charges against one or two of these particular accounts. Of course in that case there would not be any amounts opposite those items. None of the account, Promotion Expense and the other accounts, the total balances of which I took, is applicable to the Jobbing Revenue. In other words, these are not the expense accounts which apply to the Jobbing Rev- [fol. 2143] enue. I did not analyze the Jobbing Revenue. There is nothing in the books that I saw in any of these accounts which would indicate that any money was being spent to obtain any revenue from jobbing, that the revenue that is obtained from jobbing is more or less an accomodation to consumers and nothing else.

That charge is charged in as part of the cost, and the Jobbing Revenue account shows, of course, the net profit which may have been realized from that source. The account is Gas Merchandise and Jobbing Revenue. There is no expense account corresponding to the revenue account Gas Merchandise and Jobbing Revenue, in those accounts that I enumerated. Those accounts all have to do with advertising, and canvassing and demonstration of appliances and so on. The definitions of the accounts will show what they contain. They are not the expense accounts

applicable to Gas Merchandise and Jobbing Revenue, only to Gas Merchandise Revenue.

I cannot say that in the account in the ledger entitled, "Gas Merchandise and Jobbing Revenue," Promotion Expenses and the other accounts of which I have been speaking, and which are included in the column so headed on this exhibit are not the expense accounts corresponding to Gas Merchandise and Jobbing Revenue. The expenses on those accounts I mentioned appertain to that part of the Gas Merchandise and Jobbing Revenue account which is the Gas Merchandise profit, and that I am prepared to [fol. 2144] testify without having analyzed Jobbing Revenue. The percentages in the third column are as follows. The 21.153 per cent, is the ratio of the 72,992.39 in the first column, which is the total Merchandise Revenue of the subsidiaries, and the total revenue of the System, of $345,073.58. The third and fourth columns are correct computations.

BENJAMIN COHEN

Direct:

The books do not separate the expenses at all as between the appliance business and the jobbing business. I have made a segregation because it is my opinion as an accountant that the segregation should be made, based on the examination of the accounts Promotion Office Expense. I analyzed some of those accounts, that is, those accounts which I thought should be analyzed to get the information. The solid basis of my opinion is the fact that the accounts Promotion Management, Demonstrations, Other Promotion Office Expenses, Advertising, Canvassing, and Soliciting cover expenses which had to do with the seeking of gas appliance business and the promotion of the sale of appliances.

It is not true that the books treat those items of expense as against not only the sale of merchandise but also as against the jobbing branch of their industry, because the books do not apply these particular expenses against any particular revenue.

[fol. 2145] I think I have taken off the revenue from jobbing in my work sheets. I am not sure of that. I won't be sure whether it is in my working papers or not. I am

pretty sure that at one time or other I have taken them off, but I haven't got them with me.

The Master: There is an account in the ledger called Gas Merchandise and Jobbing Revenue and all the revenue that was shown by the books to be jobbing revenue; did you do that?

A. I picked out of the account, but not by going through the account, but by going through the books which underlies the account, that book, the Gas Appliance Record. There I found the revenue from gas merchandise only; there isn't anything else in there. I took only the revenue from Gas Merchandise, as shown by that book to which I refer and the figures I found here in the first column are the figures transcribed from that book; accounts that I have put under promotion expenses, and so forth was in the ledger proper.

The promotion expenses, and so forth came from the ledger. They are down there separately; the expenses are all down there separately amongst all the other operating expenses of that company. I took those just as I found them on the books and added them together, and put them under this column, headed "Promotion Expenses, etc."

What I propo*rt* to show is the proportion of promotion expenses to the revenue of gas merchandise, excluding any [fol. 2146] revenue, from jobbing.

I don't know whether Mr. Wiske's salary is entirely salary or not, but there is a salary charged against the account, New Business Department, Promotion and Management, for a manager of the New Business Department. Whether or not his entire salary is charged there, I don't know, but there is at least a part of his salary charged there. I presume it is Mr. Wiske's salary. I wasn't here at the beginning of Mr. Wiske's testimony, but I presume he is the gentleman. I ran across his name.

The promotion expense account which I have just mentioned as containing at least a part of the salary of the manager was one of the accounts the title of which is shown in my column headed Promotion Expenses. I don't know whether those accounts contain his whole salary or not. I know the amount that is in there, but I don't know that it is charged fully against this account, because I did not analyze

other accounts to see whether any part of it may have been charged elsewhere. He is the man at the head of the Department of the Plaintiff, the expenses of which are shown upon this exhibit. I did not carry my investigation *yo* a point where I am now able to say where his entire salary is charged. I analyzed these expense accounts, to some extent. I used the general ledger.

I don't recall whether I analyzed the expense account by going to the Journal for the entries. I probably went to the Journal for a few of them. Oftentimes in analyses of [fol. 2147] this sort I simply take two or three representative items and check those back, and all the others, I assume, are the same way. That is not what has come to be known in this case as spot checking.

My recollection is that I went back to the Journal for a few of the items appearing in the Ledger under the various headings; that is, the ledger is subdivided as to those accounts amongst several headings. What I did is that I went to the Journal and took one item in each group under the heading to see what it was; and, if there were twelve entries of a similar kind made in a similar way, I presumed those were the entries of the twelve months of the year. I wouldn't have to check back every month, because the nature of the construction of the Ledger would indicate to me they were all of the same kind or extent. I did not analyze the charges to the expense account beyond the extent to which I have just testified.

The exact title of the book and account that I referred to in making up my exhibit is the Gas Appliance Record for the subsidiary companies, which included the Newtown, Flatbush and Jamaica; that is all.

Mr. Cummings: I will offer The Gas Record and that portion of the Journal which relates to this particular account, of course, and that portion of the Public Service Commission reports, which relate to this particular account, for the year 1923, just that portion which relates to this particular account.

(They are deemed in evidence.) (Considered as marked Exhibit No. 170.)

[fol. 2148] I think, Colonel Dykman, the exhibit should be admitted and you may note your exception.

Mr. J. A. Dykman: I think, perhaps, sir, it is proper for me to move to strike out all the witness' testimony in which he expresses his opinion as to the nature, effect and proper treatment of jobbing revenue, which he has not analyzed or investigated, and I make that motion. * * *

[fol. 2149] JOHN JOSEPH WELSH

Direct:

In my previous testimony, I have described various special accounts which I found carried on the general ledger of the Nassau Gas Light Company, and afterwards transferred to that company's Construction Account. I have had prepared statements showing the details of thosspecial accounts taken from the Nassau Company's books. Defendants' Exhibits 102-A for identification and Defendants' Exhibit No. 160-A to 128-A for identification are statements which I had prepared.

These statements are all taken from the general ledgers of the Nassau Gas Light Company, by myself and the explanation appearing on those exhibits is the result of an analysis made of the journal or cash books, wherever the account referred me to in the general ledger. These are copies of my work sheets.

In the first column I have the date, that is from the general ledger, and another column "Account Credited," that is from the General Ledger and journal folio from the general ledger, the amount debited from the general ledger, the amount credited from the general ledger, the items appearing under explanation are the result of an analysis of the cash books and journal entries, it is a detailed analysis. The notes I have at the bottom are where I tied up the accounts with the minute book of the company. I put them on there as a reference. Those are the same references which I made at my former examination when I referred to the minutes of the company.

[fol. 2150] That is a verbatim transcript, practically word for word, of the entries I found in the journal or cash book. I did not at any time abbreviate any of the entries that I found and give the substance of it. The whole substance is here. I may have abbreviated my wording "Account" or "Contract" or something like that; I may have abbreviated

a/c or "con" for contract. I have treated all of these other statements marked Exhibits 106-A to 128-A for identification in exactly the same manner.

The item December 31st, 1874, Cash, blank, under journal folio, 905,355 under explanation we have the entry, "Freel & McNamee, $9,000, 10th of December, 1874, Payroll $53.65." That is just the way it appears in the general ledger. It just says, "December 31st, cash, $9,053.55," and that meant to me that I should look at the cash book for that particular year, 1874. The folio of the cash book is not given, nor the ledger entry and that is true wherever you find the cash.

In regard to these payroll items the items were so numerous I did not attempt to give the exact amount, but I tried to collate them together and give the total amount that appeared in the cash book for that particular month. I mean I did not give the exact date. This $53.55 that you read, $9,053.55, that item may be made up of three or four small items, and I did not attempt to give the detail on that. These statements, are in my opinion correct and are transcripts right from the books of the company.

[fol. 2151] Mr. Deegan: I will offer those statements in evidence.

(Received and marked Defendants' Exhibits Nos. 102-A and 106-A to 128-A both inclusive, in evidence.)

Defendants' Exhibit 129-A for identification is an analysis of the Construction Account taken from the general ledger, and the detail was taken from the cash book or the journal. I am talking about the Nassau Gas Light Company. That is the debit side of the Construction Account 129-A and 130-A is an analysis of the Construction Account credit side, and that is taken also from the general ledger of the Nassau Gas Light Company. These are transcripts from the general ledger and cash books and the journal. I correctly transcribed them.

Mr. Deegan: I will offer them in evidence.

The Master: Mark them in evidence.

(Received and marked in evidence Defendants' Exhibits Nos. 129-A and 130-A.)

Defendants' Exhibit 104-A for identification is a statement showing the thousand cubic feet of gas made, the number of services on district, the whole number of open accounts, the whole number of public lamps as appears in the trial balance books of the Nassau Gas Light Company from 1872 to 1885, taken off month by month and tabulated into yearly periods on this sheet. This was prepared by Mr. Goodman, I believe, I testified the other day, but I assisted in taking off figures from the trial balance books, and checking those figures with the details that we have taken off with the adding machine, taking the totals off.

[fol. 2152] Mr. Deegan: I offer that in evidence.

(Marked Defendants' Exhibit 104-A in evidence.)

I previously stated in answer to a question, "Q. Did you find that that auditing committee later made any report in regard to the books of account of the Nassau Company?" "A. I was unable to located any report, but I found notations in the cash books of the company, the Nassau Gas Light Company, every month that the account was examined with vouchers, and found correct, and I also found that every item in the checkbook was checked with pencil check marks, debit and credit side." I found references to a report in the minutes of the Nassau Gas Light Company in which the Auditing Committee has reported the books and accounts of the company and found them correct.

The first notation is page 17 of the minute book, meeting of August 15th, 1871, "The Auditing Committee reports that they examined the accounts of the company and that the same were found correct." That is the first entry I came across. In addition to that reference in the minutes I found other references. At different years there have been different notations and they are practically from 1871 right through up to 1894, I believe. I haven't got the other folios.

Cross-examination by Mr. J. A. Dykman:

I have taken exhibits marked for identification with corresponding numbers, and, except for Exhibit No. 104, and made some changes from the original exhibit in these ex-

hibits marked with letters today. I have not left off any [fol. 2153] data which appeared on the original exhibits marked for identification. As I understood the Master, he wanted those exhibits originally offered withdrawn and recast. I did recast them, and what I did was to give you the exact dates of the payments in the cash book and eliminated my own comments. I have also eliminated some of the exhibits that were previously marked for identification and offered in evidence like, 98, 99, 101, 103, 104 and 105. I have left off certain comments of my own, and those exhibits as presented now purport to be simple transcriptions from the books.

On Exhibit 102-A, the very first item, "September 30th, 1874. To cas*gm* $4.75, A. V. Benoit," in the column headed Explanation, I got from the cash book, that is, the words "A. V. Benoit" from the column "Explanations" I got from the cash book.

In a good many cases I find, "Labor and material furnished on account of contract." In other cases I find "material furnished; benches or retorts," and explanations like that. In a great majority of cases I find simply the name of a man or a concern to whom the payments have been made, that is a fair statement of what the cash books shows. This opening notation which I have on Exhibit 102-A is characteristic of the amount of information contained in the cash book with regard to the majority of the items in it. With the exception I mention, where there are special contracts where they mention labor and material furnished, and on account of contract, I would not say that Exhibit 102-A is a fair example of the amount of informa- [fol. 2154] tion found in the cash book, because I have other exhibits here which they tell me in the cash book is "Account of contract." I have quite a few of them. I have particular reference to 106-A. All my exhibits taken together are a fair example of the amount of information other than names to be found in the cash book. These are correct transcripts from all the records.

In the minute book on page 96, meeting of July 20th, 1875, I find the president was authorized to purchase a lighting rod for Holder No. 2 was referred to the president with Holder No. 2, but I had reference to another lighting rod. I might say that it says in the minute book, page 96 at the

meeting of July 20th, 1875, that the matter of the lighting rod for Holder No. 2 was referreed to the president with power. It may be here under a name that I cannot pick out because I cannot tie it in with the minute book. I did tie it up with a lighting rod. It may be in there under a name which I cannot pick out. That name undoubtedly appears in the cash book. A small item like that would not be any contract for, and it may be given to the president with power, and he may order somebody in the building to go out and buy it and it would be in here in some bill and I cannot identify it.

I can trace the name through, especially with the large items where they give contracts out and the name is quoted in the minute book. I can identify that through the accounts there. Assuming that I find in the ledger an item and it refers to a folio in the journal or cash book, I go to [fol. 2155] that original entry and find there a name and an amount. I have no means of identifying the nature of that payment unless there is something in the minute book to guide me. All I can say is that it must have been expended for the construction of the holder or it would not be in there. All of these items are charged to this particular holder, upon the ledger of the Nassau Company. Where I have a payment to an individual recorded in the cash book and no corresponding descriptive entry in the minute book, I cannot tell what the payment in the cash book was for.

I believe when I testified on my cross-examination that I found this company kept its books in a clear and concise business-like method according to up-to-date accounting methods, that was in answer to a question about the St. James Work Shop. I testified that I presented that account as an example of the way in which the company kept its books, and stated that they kept their books in a clear and concise business-like way and gave that account as an illustration. I had in mind all these special accounts that were set up under different contracts, for another example, in which they endeavored to keep special items separated.

The other special accounts which are treated on my exhibits here are all examples of clear, concise business-like manner and up-to-date accounting methods. I did not look at the Street Mains Account and the Services and the Meters Accounts. The only thing I said was that I checked

up Mr. Mount's figures which he restored from Profit and Loss; I checked up those items and found they were correct. In checking up those items I would not say I had to examine [fol. 2156] those accounts. I just went to the Street Mains Account and picked out of that account all items that were charged to Profit and Loss, with the end in view of checking up Mr. Mount's figures. In journal June 30th 1876, page 130 I find the sum of $100,000 credited to Street Mains and charged to Profit and Loss. That is a resolution of the Board of Directors June 20th, 1876 is the date at the head of the folio. It says, "Resolution Board of Directors, June 20th." There is no ledger reference there, no folio. It is careful, concise and business-like to leave off the ledger reference on the journal, in my opinion, because the reference to the Street Main Account in the Gene al Ledger, folio 43, refers to the Journal folio for the $100,000, and in theh journal from the General Ledger Account it refers specifically to the journal folio. It is a fact that there is no ledger reference in the journal at this place and it is the general practice to put ledger references in journals.

I can find this entry in the journal, using the index of the ledger. In view of the numerous entries in this journal, I think that a slip of one entry doesn't mean, to my mind, that it is not a good, careful, concise, business-like way to keep the books. It doesn't change my opinion any. I am not leaving out the word "careful." I think that in the instance when the man was making that Journal entry, he was careful, as long as it is in the Journal.

[fol. 2157] Referring to Ledger, folio 43, the Construction Account, and folio 32 the Profit and Loss Account, the $100,000 to Profit and Loss in General Ledger, folio 32, Profit & Loss Account, under date of June 30, on the debit side it says, "To street mains, folio 130, $100,000." The only statement in the minutes of June 20, 1876 is that the President presented statements showing profits made for the five months ending June 20th. Immediately after that statement, the minutes continue as follows: "On motion the President was authorized to reduce the profit and loss account by charging from the Street Main Account $100,000.

On page 178 of the minutes of January 20, 1880 is the statement that the president was authorized to charge off to Profit & Loss the following accounts, viz: Street Mains, Services and Meters and Equipment."

These accounts, Street Main and Services and Meters and Equipment, were examined in that particular respect as they concerned Mr. Mount's Exhibit. That is all I had in mind, to check the figures in his exhibit. I did not examine these accounts sufficiently to enable me to answer the question as to whether the practice of charging off those accounts to Profit and Loss continued until January 1st, 1885. Mr. Mount, on his Exhibit No. 297 restores the accounts written off each year to Profit and Loss. I examined those accounts at least for the purpose of determining whether or not he had put back the proper amounts from Profit and Loss.

[fol. 2158] Tying up the figures that were transferred from Profit & Loss. That is the idea I had in mind. Having done that, I observed in the course of my examination that the practice of charging off to Profit and Loss continued until January 1st, 1885—the Street Main account from 1876 to 1895. The Services and meters from 1880 to 1895. That information was from the data that I accumulated while I was working on the books, and my working sheets refresh my memory.

The practice to charging off to Profit and Loss continued only to January 1st, 1895 from those accounts; in regard to the Services & Meters on account. January 1st, 1895 is the last entry. I haven't got any Equipment work sheet here, in the Services and Meters account. There is one item transferred January 1st, 1880; another, January 1st, 1881; January 1st, 1882; January 1st, 1883; January 1st, 1884; December 31st, 1884, then there is a skip until you come to January 1st, 1895. So the practice of writing off in that account was suspended between 1885 and that last entry in 1895, the year when the company was sold to the Brooklyn Union Gas Company.

Speaking of Sheets Main—

June 30th, 1876, resolution of Board of Directors,	$100,000
January 1st, 1880	$19,778 34
January 1st, 1881	1,198 11
January 1st, 1882	2,253 69
January 1st, 1883	24,950 89
[fol. 2159] January 1st, 1884	5,493 85
December 31st, 1884	23,578 81
January 1st, 1895	15,000 00

So that again with reference to this account the practice was abandoned between 1884 and 1895, the practice of writing off to Profit and Loss. I did not have data with reference to the Equipment account, so that I cannot answer a similar question with reference to that. I haven't my working papers. These Nassau books are in evidence.

This practice of charging off the balances of these accounts, Street Mains and Services and Meters to Profit and Loss up-to-date accounting was the policy of the Board of Directors of the Company, and if the items in the accounts can be traced out by a detailed analysis, you can always get the cost of those particular items.

The policy of the Board of Directors of this company governs the accounting methods to be pursued by this company. If in their opinion they ordered that these items be transferred to Profit & Loss, why that was their policy, but that does not prevent anyone from coming in and getting at the facts of these items, what they were, by a detailed examination of the account.

The answer I gave in regard to that St. James Place Work Shop, as I remember the words, was to satisfy my mind that an attempt was made concerning that particular account to keep the account in a clear, concise manner. This bookkeeper to my mind, was obeying orders from someone. [fol. 2160] It doesn't say that, but that is my opinion of it, from my experience with public utility accounting, especially in the Accounting Department, that you do not voluntarily charge anything to Profit and Loss without an order. It is not up to the bookkeeper himself. When I gave that answer I did not mean only to indicate that the bookkeeper was up-to-date in that he followed the Board of Directors' orders. I also intended to state that an attempt was made to keep that particular account correctly. The account was kept as it would be kept today.

All other accounts in the books were kept as they would be kept today, unless the Accounting Department received an order from the Chief Accountant or the Board of Directors or the president to do otherwise.

Outside of that Construction account and those special accounts, I didn't pay any attention to the other accounts, as I said before, in so far as it related to Mr. Mount's exhibits. That is what I had principally in mind when I

checked those other accounts; that is, I examined them to find out what items went into Profit and Loss. That is all I had in mind. I did not intend to testify that any accounts in the books other than that St. James Place Account were kept as they would be kept today. If it was under the jurisdiction of the Public Service Commission, the accounts would be different; that is, the Construction account. There would be more Retail, as called for by the Uniform System of Accounts, and the Services and Meters would be the same, but I cannot tell you what is in there [fol. 2161] unless I examine it. By that I mean they might have other items in there outside of that, and the same with Street Mains, They have an account today, I believe, known as Street Mains in the Uniform System of Accounts, but as regards giving an answer as to a public service corporation, I didn't find any accounts outside of the expenses in the books. They would be kept the same way to-day, but there may be a little more detail.

I have testified that in my opinion these books were kept substantially according to up-to-date methods. I had in mind that every entry that went into the general ledger could be traced to a book or original entry. In other words, they had a double entry system; the books were kept on a cash basis, and the difference between a cash basis and an accrual basis was that they did not make any accruals through that journal, and an attempt was made to record the facts in a clear manner; and I specified that particular St. James Place entry, because to me it was wonderful that they had that theory in mind, to take a building on a lot leased for a certain number of years and spread that over the period of the lease, which is just the same as we do it today, substantially. That is what I meant to convey.

[fol. 2162] New York City, N. Y., July 16th, 1924.

JOHN JOSEPH WELSH

Cross:

Referring to the writing off each year of the balances in the Street and Mains account and the Services and Meters account to Profit and Loss from 1885 to 1895, I was not con-

cerned with the system at all; I just checked the amounts that Mr. Mount had restored, trying to get his total. I couldn't say whether after 1885, the annual additions to Street Mains and to Services and Meters were allowed to accumulate in those accounts up to 1895, when that write-off in each year occur-ed. I didn't find it to be the fact because I didn't make that examination. I don't know whether that was the fact or not. The reason I examined Mr. Mount's figures was to find out if the items that he had taken from Profit and Loss and restored were the items that were taken out of the Street and Main account, and that is what I concerned myself with. I just examined those items; that is, to find out what they totalled. I think I looked after 1885 to see if anything had been written off and restored. Those books were not closed at stated periods that I recollect. I couldn't say whether they have the custom of closing the books through Profit and Loss now and again, annually, or semi-annually, at stated times or that they closed the books by charging everything or crediting everything [fol. 2163] through Profit and Loss. The statement with the amount and dates showed the change, namely, that between 1885 and 1895 the annual additions were allowed to accumulate in the account Street Mains and the account Services and Meters. I don't know; the only items that I have here are the items that were transferred directly from the Street Mains account to Profit and Loss, and I have taken those off and I have got a total that agrees with Mr. Mount's. I don't know whether between 1885 and 1895 any sum was charged off those two accounts to Profit and Loss, except the figures I have taken where the ones I have found credited to the Street Main account and Services and Meter account and transferred to Profit and Loss. From December 31st, 1884, up to and including December, 1894, there was no such entry charged from the Street Main account to Profit and Loss. There was one in January, 1895. I don't know whether the charges were allowed to accumulate in those accounts. I do not know whether or not any of those items were charged out of those accounts into some other account, other than Profit & Loss. Between 1884 and 1885 on the one hand and 1895 on the other hand. I did not make such an examination of the books as would enable me to say. My examination disclosed an account entitled

"District." I have an analysis here of the District account. An amount equal to the annual charges to the accounts Street Mains and Services and Meters was credited [fol. 2164] to this District account during the period when nothing was charged off from the two accounts to Profit and Loss, namely from 1885 to 1895.(?) I have some entries here, starting in 1886, January 1st up to 1890; 1886 to 1890. My analysis showed that the practice of charging off the amount in the Services and Meter account and the Street Mains account from the account District ceased in 1890. There was a balance there. The debits or the transfers to this District account did not balance that account up to December. On December 31st, 1890 the whole balance in the District account was written off to Profit and Loss, with an entry "To balance account to date." I checked all the postings from the cash book and journal to the ledger. Those in the ledger have been checked back to the cash book or journal, whichever book I was referring to. I just checked those particular accounts that I was interested in. I worked backwards; I worked from the ledger to the books of original entry and not in the other direction. I found all these postings which I checked correct and I am prepared to state now that all of the entries are correctly posted. That opinion is based on the result of the examination I made of each one of these accounts that I have mentioned. I checked certain items that I was interested in and found them correct. I expressed the [fol. 2165] opinion that those items were correctly posted as a result of my checking those accounts. That is, from the postings which I checked, I am now prepared to state that the other postings are correct. I would not be prepared to state that the other postings are correct unless I made an examination of every account in the general ledger. In the journal, page 26, under date of December 31st, 1872, the third item on the page, the third group, Contingent Account to Profit and Loss. I find there an account of $250 charged to Contingent and credited to Profit and Loss, L. & M. Israel. There is a notation opposite each of the entries there "charged in error." On the cash book No. 119, page 29, I cannot tell what the entry on September 29th, 1871, Services and Meters, L. & M. Israel,

$250 is for. But I may make an explanation on that. This is Services and Meters, and Contingent and Profit and Loss, which I had nothing to do with in my examination. I have entries in Services and Meters on the exhibits which I put in evidence, but that is in the detail in the Construction account. I am prepared to answer on anything in the Construction Account. It just says here "L. & M. Israel, $250," Charged to Services and Meters.

The cash book, folio 29, credit side, under date of September 29th, 1871, first column, says, "By Services and Meters." Next column, "L. & M. Israel," and under a [fol. 2166] general column headed "Services & M." on the top in red ink *ink* appears this $250, and it is carried also in the total column.

The entry in the Journal is to correct an error, and it makes a charge to the contingent account and a credit to Profit & Loss. That is what it reads here on Journal folio under date of December 31st, 1872. I am not prepared to say what that Contingent Account was set up on the books for, unless I examine it with great detail, and I am unable to state the result of this entry.

On page 33 of the cash book, the month of September, 1871, appears the following notation: "This is to certify that we have examined the foregoing accounts with vouchers for the same and have found them correct." The following names appended thereto: Edwin Beers, Charles J. Lowery and Edward D. White.

I am unable to say that the effect of theentry in the Journal is that I have a correcting entry which does not correct until I make a detailed examination of accounts. The original charge was made to the account Services and Meters in the cash book. From what I see here on September 31, 1872 and what I see in the cash book, this $250 was charged to the Services and Meters Account, but it is not apparent to me that the Services and Meters account was ever credited with the $250. In other words, taken out of the Services and Meters Account before it ever went into [fol. 2167] this Contingent and Profit and Loss. On page 26 of the Journal, December 21st, 1872, Contingent is debited and Services and Meters is credited, and the first entry there shows August 29th, L. & M. Israel, charged in error, $250, credited to Services and Meters Account. I be-

lieve this second journal entry in which Contingent is charged and Profit & Loss is credited, looks to me to be September 20th, L. & M. Israel, charged in error $250. And that is just the date in the cash book of the entry to which I have been referred. The date on Page 26 of the Journal of the other entry is August 29th and the dates are different; but I think it is unfair for me to answer unless I could trace that first $250 item referring to August and find out that is about. On the Journal, page 26, the first item, the August item, the journal entry is also made to correct an error. That page of the journal discloses two errors; but it may be for the same bill or the same amount; I don't know. I would have to find out prior to this first entry here on page 26, this $250, if that was in prior to this date, August 29th in the Services and Meters Account. That would be my starting point, and find when it first went into the Services and Meters Account, and I am unable to do that unless I make a detailed examination. I am unable to say that if they refer to the same payment, there have been two errors [fol. 2168] with reference to the same payment recorded on the same page of the journal unless I examine that Services and Meters Account with respect to that particular item. It is necessary for me to examine the Services and Meters account in order to answer the last question. As an accountant, I cannot assume that the entries refer to the same payment; in that event two errors were made. I have to base a lot of what I say on facts. I do not know whether it is a fact or not that $250 that is taken out of th. Services and Meters Account ever went in there. I do not know from an examination of the cash book whether it ever went into Services and Meters. But I am referring to one of August 29th, referring to date in September shown on page 29 of the cash book. I would not want to answer whether I really examined that account and made sure that in there that $250 was ever charged to Services and Meters. On page 25 of the ledger, the $250 is included in the Services and Meters account in the September totalled cash. But I also may call counsel's attention to the fact that the total in here for the Services and Meters Account is incorrect, according to my figures, using the same that appear in this column, and it should be $1,135.54; and I also find upon examination, under date of September 23rd, they have in-

cluded an item of Services and Meters Payroll shop under the Street Main column, $72.63, which should go under the Services and Meters Account. I also find in the Services and Meters Account $116.94, that should go to the Street Main Account. That is under date of September 18th. [fol. 2169] This short investigation has disclosed three errors in the books. Three, and that is why I based my answer on the fact that I would be unable to state with regard to these other accounts unless I made the examination that I just made here. Having made that examination, whether the effect of the entry in the journal on page 26 is not correcting entry which does not correct because it credits Profit & Loss with an amount of $250, which was, as a matter of fact, in the Service and Meter Account. My answer is substantially what I have said before, I would have to examine those particular accounts to find out why, to my mind, that adjustment was made. It is evident an error has been made, and it is adjusting some kind of entry, and what that is, I am unprepared to say. The examination which I have made here shows that the $250 paid to L. & M. Israel, was charged to Services and Meters; it also shows that at the time of the entry in the Journal on page 26 was made, that that $250 was in the account, Services and Meters; and it further shows that this entry which they labeled a correcting entry, purported to correct a charge to Profit & Loss, whether the effect of the entry in the Journal on page 26 is a correcting entry which does not correct. What I am trying to get at in my answer is—I want to know why the Contingent account was charged and Profit & Loss was charged instead of the Services and Meters account being credited with that $250. I cannot [fol. 2170] tell unless I go down that Services and Meters Account and find out why this entry was necessary. I have to go through and dig them all out. Then there also appears another item at the top of the page for $250, in which they charge the Contingent Account and credit Services and Meters. That is under date of August 29th, and I want to satisfy myself why that entry was made, and I am unable to do it unless I have an examination of that particular account. So far as the entries to which my attention has been directed are concerned, the entry in the Journal on page 26 is a correcting entry which does not correct that

Services and Meters Account, but I would not swear to that unless I satisfied myself why that entry was made. There must be some reason for it. I want to know where the error occu-red and when it occurred. I am unable to say that it is inconceivable that the entry in the Journal on page 26 is also incorrect. I still stick to the answer I made before, that I would like to have a chance to study that and find it why those two entries were made. At page 46 of the minute books, minutes of January 21st, 1873, the following appears: "The auditing committee reported that they had examined the accounts of the company for the month of December, and that the same were found correct." On the Journal, page 60, March 6, 1874, and an entry which charges Equipment and Credits to the Contingent account with $3,421.73, the entire balance of the account, and on the Journal, page 26, December 31, 1872 is an entry which [fol. 2171] charged the Contingent Account and credited Profits & Loss $1,493.05, with a notation, "Previously charged in error." I will read the entry that I find here; page 60 of the Journal-Brooklyn-March 6th, 1874," folio 168, "Equipment A/C, Debit." Then folio 53, "To Contingent." And it says, "Transfer of A/C $3,421.73." The ledger, folio 53 contains the account Contingent; it was opened August 31, 1871. Down to the date December 31, 1872, the balance in that account at the end of the year was not charged off to profit and loss, according to what I see here on this folio, (examing book); it is to gas. It was charged to the Gas account; that is correct. I do not know until I examine that account whether Gas was a clearing account for Profit & Loss. Just look at the Gas Account, because you will see it immediately. I am unprepared to state that Gas throughout the history of the company was a clearing account for Profit & Loss. My reason for this is: I notice in looking at folio 23 in this account one period the Gas account is credited by Profit & Loss, and another period it is debited to Profit & Loss. It may or may not depend on the state of the Gas Account at the end of the year. I am unprepared to tell you until I have a chance to go through and find out. I would like to make an examination of it. The investigation of these books does not enable me to tell whether or not throughout the history of the company the account entitled Gas was clearing account for

Profit & Loss unless I examine it, folio of the ledger to the [fol. 2172] account Contingent 53. December 31st, 1872, the balance of that account, 1871, from August to December, did go to the account entitled Gas, and then 1872 there were two entries. It appears to be semi-annual. Starting with December 31, the balances are allowed to accumulate. I am unprepared to say that the effect of the entries in the Contingent Account is an accumulation until March 6, 1874, when the entire balance of $3,421.73 is charged to the Equipment Account. I will tell you why I am unprepared to answer that; because right here in this account, starting December 31, 1872, appears a debit entry, Services and Meters, $512.63, and refers me to the ledger folio 26; and under that an entry, Street Mains, $202.24; underneath that an entry, Profit & Loss $1,493.05, and then underneath that the various cash items up to and including February 28, 1874. I don't know if those are all the conditions to the account Contingent; I would like to find out from an examination just what those conditions are. Those are all debit entries; but it does not state just what they are. I cannot tell unless I examine it. The ledger shows two credits to the account Contingent, one under date of January 31st, cash $45, and the other one March 6th, by Equipment, $3,421.73 credited in this account on March 6, 1874. The ledger does not purport to show that the sum of $3,421.73 is transferred to Equipment, including the sum of $1,493.05, which had [fol. 2173] previously been charged into the Contingent Account and credited to Profit & Loss. I am unable to state just what is included in that until I examine this account. This folio of the ledger does not enable me to say because there is a credit here of $45 and that may apply to any item on there. The credit of $45 is in the cash book, January 31st, 1874. I have it here, $45 credit from book, folio 296, under date of January 2nd, 1874. The explanation is: "Report W. I. D. H. $45." I cannot tell from the cash book what it applies to. It is apparent from the face of the ledger at folio 53 that part of $1,493.05 on this date, March 6th, passed into Equipment. I am not able by looking at page 53 of the ledger to state whether or not that item of $1,493.05 was passed into Equipment unless I found out what this detail is made up of. That is the $45 might be part of $1,493.05. It says "Report W. I. D. H." And that

is all I know as to what the $45 was. I don't know what the report was, and I don't know who W. I. D. H. was. That is what it says in the book of original entry. It is apparent that the bulk of the items here are included in that $3,421.73. They are included, so far as I can say, with the exception of the $45. In other words, taking the total debits and taking the $45, the balance is in that account, the $3,-421.73. Referring to January 1st, 1880 as to the entire balance in the Equipment account being transferred to [fol. 2174] Profit and Loss, the Equipment account, Folio 168. That brings up the question that I would have to verify this account. It starts at 1874 and is carried on through to 1879, and that would mean going through and fitting up these different items and proving this balance. Whatever balance it is upon the ledger, be it right or wrong, appears from the ledger, Folio 284, to have been transferred to Profit and Loss on January 1st, 1880; that balance is $6,166.53. This entry January 1st, 1880, in the Equipment account has a notation of Folio 219 in the journal. In Folio 219 of the journal at the bottom of the page is Profit and Loss debtor. There are three items, one of which is this amount, $6,166.53. And so far as appears by the ledger folio 284, that is the balance in Equipment at that date according to the ledger. On page 26 of the journal, in the year 1872, there appears an entry charging the Contingent account and crediting Profit & Loss, which is stated there to have been made to correct an erroneous charge to Profit & Loss. One item here hasn't got that notation; it is a small item, $6.75. On January 1st, 1880, according to folio 168, it was not charged into Equipment. $1,493.05 was charged into Contingent on December 31st, 1872. And then $3,421.73 was charged out of Contingent on to Equipment on March 6th, 1874. I have testified that the $1,493.05 was apparently included in this item of $3,421.73, transferred it to Equipment. I don't think I have testified [fol. 2175] that it was transferred out of Equipment into Profit & Loss on January 1st, 1880. On January 1st, 1880 the charge to Profit & Loss from Equipment account included this item of $1,493.05, with the possible exception of $45; but there are other items appearing on the credit side of this Equipment account, namely, $60, $100 and $30; in other words $190. The $60 credits the Equipment account

and is charged to Profit & Loss. The $100 came from the cash book. What becomes of it I am unable to answer until I analyze the account. I just want to find out what particular account these items refer to. The $30 I am unable to tell what applies to. So there is $45, $100, and also items of $30 as to which I am unable to testify with the certainty as to whether they are included in the item of $1,493.05. $60 went to Profit & Loss. There is an item of $100 and an item of $30 and an item of $45, making $175. So that at least $1,318.05 of the original amount charged to Contingent was in the $1,493.05 when it was transferred. They began on December 31st, 1872, and charged this amount to Contingent from Profit and Loss, and then charged it, with the possible exception, of the items of which I have mentioned, from Contingent to Equipment, and then charged it from Equipment to Profit & Loss. And when they made the first transfer in 1872, the journal contains a notation that it had previously been charged in error [fol. 2176] and that the transfer was to correct an error. And finally then in 1880, they make the same charge all over again to Profit and Loss, with the possible exception of the $175. They put themselves right back where they were to start with in 1872. During all that period this auditing committee was certifying to the corrections of the books.

I have confined my testimony to the statement that the Construction account contains substantially the cost of property in so far as the expenditures are recorded to the plant, excluding among other things, services and meters. I believe I have testified to that. In the journal on page 33, there is an entry of May 30, 1873 which charges to the Construction account and credits the account Services and Meters. I find the same kind of entries on pages 34 and 38 of the journal, referring to that $6-item, a charge to Construction and a credit to Services and Meters. Those are all transfers, from account Services and Meters to the Construction account. I can explain those transfers, only insofar as they were constructing works at that time and these evidently were used in the construction of the works. That is an assumption. I don't find anything in the book which explains those entries. Evidently from the face of it, they were used for Construction. That is all I can say. The only thing I can find is that they were charged into the

Construction account, and I find them in the Construction [fol. 2177] account. Whether they are properly charged there, I don't know. I found them in the Construction account. I cannot tell to what those entries applied. It was not because I could not explain these other accounts from which transfers were made to Construction, that I omitted them in my statement of the portion of the books which I call substantially the cost of recorded expenditures.

The Master gave us permission to go the Brooklyn Union Company on May 26th, and Mr. Blanchfield will bear me out on that. I believe we had to wait about two days and a half to get the books. I am referring now to the Nassau Gas Light Company. Then there was Decoration day and there were a couple of Sundays, so my time was very limited. I worked nine hours a day on the job, and I confined myself to the accounts that I was asked by counsel to get, which they thought were important. If I had had the time I would have gone to the others. In other words, I only had about seven days in which to complete this examination. I was not instructed to keep away from Street Mains account specifically but simply to devote all my time to Construction, because that was a matter about which Mr. Mount might be examined. In the journal, page 11 of the journal, under date of June 1st, 1871, I find a Construction charge in the Brooklyn Gas Light Company account credited. Folio 11, and 13 I find entries for the Construction account but not on folios 12, 14, 15, 16, or 17. I find entries at folios 7 and 9, and I find a notation of en- [fol. 2178] tries, folios 10, 11, and 13. At folio 7 appears an item of $100. I did not go in detail on that. At folio 8 appears a charge of $16,606.61, and my analysis shows that $2,107.78 was for Labor, Law Expenses, $667.49; removing Night Soil, $18.60; payments to watchman, $634; piles $857.90; Lumber, $57.42; E. Gatterson, $6.26; S. L. Husted, $10,158.22; Boiler (W. Finney Company) $557.54 and Derril, 80 cents. I could not tell what the law expenses were from the information at my disposal or what the lawyers did. I could not tell where the watchman was employed. I don't know whether the watchman might have been watching the lawyers. All I can say is that I found that those entries were in the Construction Account. I know that when they are building works, they usually have

watchmen on the job, and that is a proper charge to Construction. That is the only explanation I can give. The information at my disposal did not disclose what Mr. E. Gatterson was paid for. The entries in the book did not disclose where the boiler was installed or the size of it, or from where the night soil was removed, or for what purpose it was removed, or where the piles were driven; how many piles there were, or who drove them or what sort of lumber was embraced in the item, or to what use it was put, or whether it was a temporary scaffold or formed part of a permanent building. It did not disclose what Mr. Sey- [fol. 2179] mour L. Husted got paid for, or who he was, and I don't know. There is no description of him in the books. There is a man named there, Derrill who was paid 80 cents. There was a labor item in that amount. The information at my disposal did not show what the laborers worked at. They might have been putting up a retort or they might have been digging a hole, they might have been doing anything so far as the entries in the books disclose. It is not possible to allocate the labor item to any specific piece of property which went to make up the works, only so far as it is disclosed in this analysis of the account; just labor, it does not show what it was for or what was done. It is not possible to tell from these books what the labor was used on.

I was able to find what the other charges to construction, representing payments to the Brooklyn Gas Light Company covered. $319 refers to Journal Folio 8. That appears in this Construction account "Root Engine Company." But I am unable to say what was purchased from the Root Engine Company. As a matter of fact, this entry purports to be a payment to the Brooklyn Gas Light Company and not to the Root Engine Company at all. Unless I recollect incorrectly, I believe you have a cash book here that was opened up and called an account current with the Brooklyn Gas Light Company in which they made certain payments. Referring to cash book 18, Folio 17, reading from copy of account current with the Brooklyn Gas Light [fol. 2180] Company, I find under date of November 28th, "Root Engine Company, $319." Then all the information I am able to find is transcribed right to my Exhibit 129-A. My exhibit 129-A after an item June 1st, 1871, of $1,246.19

is a question mark, the same question mark on the exhibit 129-A for identification. That appears there because I tried to get an analysis of that account and was unable to do so, and I put that question mark there. In other words that $1,246.19 represents an amount paid the Brooklyn Gas Light Company and appears in the Construction account. In my Exhibit 129-A, I also have an item of $1,163.48 of which $871.13 is labor. I could not tell any more about that labor item than I am able to tell about the item of $2,107.78 nor about any of the labor items shown in this exhibit. That is, I was not able to tell with reference to any of the labor items where the men worked or what they were doing. All of those items under Construction account are various items which repersent payments to the Brooklyn Gas Light Company and charges to Construction on Exhibit 129-A, covering Lumber. I was not able in any instance to find more with reference to the item lumber concerning which I was questioned. There is also a tugboat for $36 which forms a part of the payments to the Brooklyn Gas Light Company and the charges to Construction. It is not generally true, with reference to all of the items embraced in [fol. 2181] these payments to the Brooklyn Gas Light Company which were charged to Construction, that I was not able to tell what the labor was for or where the material was used. It is true I did not know where the men did the work or where the lumber was used or anything. When I stated on my direct that the Construction Account in my opinion contains substantially the cost of items in so far as the expenditures are recorded. I had the two ideas in mind; the principal one I kept in mind all the time was to try to tie in those special accounts with the minutes and then to find out that they were actually transferred into the Construction account. Secondly, to find out to my satisfaction by the analysis of this Construction account that these small expenditures were of considerable importance to put them in the Construction account. I cannot only take law expenses and watchmen, but those different items and put them into the Construction account, and from the result of my examination of these gas companies, I find the practice is practically the same as others. What I had in mind is other gas companies whose accounts I have examined in regards to Construction, and the attempt is made here to put

into Construction account all of the items that had anything to do with Construction. I found recorded in this Construction Account practically the same class of entries that I found in the books of other gas companies. The par- [fol. 2182] ticular company that I have in mind was called the "Plant Account." It was because in the particular company, the account was called the Plant account that I confined my answer to a statement that Construction in my opinion showed substantially the cost of the plant. With reference to the Construction account and the items which are shown on Exhibit 129-A, covering payments other than to the Brooklyn Gas Light Company, my testimony is the same, that I am not able to allocate the labor to any specific piece of property and that I was not able to tell what a person named sold to the company in so far as they do not concern those special accounts, the Construction account. In some instances I can refer to the minute book. I have a couple of contractors in mind as shown on Exhibit 129-A. The item on the second page of my Exhibit 129, the payment of August 20th to T. F. Rowland of $1,500, engine, is one of such items, but I have reference to a specific account here that appears in the Construction account and was not set up as a special account, but I was able to tie it in with the minutes. The T. F. Rowland item—$1,500 for engine was credited to an account called T. F. Rowland, that is Exhibit 128-A, general ledger folio 124, and Construction account was charged. I am not able to tell what sort of an engine it was. It might have been anything for all I know.

Referring to the minutes of June 1st, 1888, folio 352 [fol. 2183] of the minute book, is a notation, "The president presented a bid for the erection of a stable and furnishing new purifiers; a man named John Cabot submitted a bid which says, "8,000 feet trays, $1,152." At the same meeting the bid was accepted and contract made, according to folio 353 for $1,152 for lime trays, the same man, John Cabot. Exhibit 129-A page 5, August 31st, 1888, shows the item of $1,207.59, John Cabot $1,152. Out of the $1,207.59, $1,152 was paid to John Cabot. The ledger referred me to the cash book. And the cash book showed a payment made to John Cabot, $1,152, but I haven't got the exact date. And out of the item which you show on sheet 5 of Exhibit 129-A, of $1,207.59—as to who got the remaining $55.59, I

find just here as miscellaneous item, there may have been three or four, if I remember correctly, I did not bother with it. They were small items and I did not put the names down:—Cash Book No. 122, under date of August 7th, Folio 299, William Taylor & Son, $38.93; New York Supply Company, $6.43; Folio 301, August 29th, George J. Jacobs & Company, $10.23. That added to the $1,152 paid to John Cabot on August 8th, Folio 299, amounts to $1,207.59, and agrees with the recapitulation on Folio 303, which was approved by the Auditing Committee. I am able to tell what Taylor or the New York Supply Company or Jacobs sold the company. There are other items in there which I have set [fol. 2184] down here on Exhibit 129-A. I have a column here of miscellaneous items which form part of a larger item appearing in the amount column. And those miscellaneous items are items where I found the names of people and were not able to tell what they supplied. I don't know how many trays John Cabot sold to the company. All I can do is to refer to the minutes. On folio 352, minutes of June 1st, 1888, the following appears:

"The president presented bids for the erection of a stable, for furnishing new purifiers from the following named firms, namely, for purifiers," and he gives the different contractors. I am not able to tell from the books how many purifying trays were bought for $1,152. All it says here is "John Cabot 8,000 feet trays." I may say they are lime trays. That appears on page 353. On sheet 2 of my Exhibit 129-A is an item on September 17th, 1873 account Street Mains, $350.93, material used in construction of a tank. I am not able to tell what kind of a tank it was. The explanation on journal Folio 45 under date of September 17th, 1873 which shows where this item came from is as follows: Construction was charged and Street Mains credited, and the explanation was "Materials used in construction of a tank." Just what I have said on my exhibit. I am not an engineer; I do not think I could say what that tank was for. Referring to Rowland Exhibit 122-A the words, "Holder and Tank," is just the way it appears in [fol. 2185] the book, the general ledger. The account in the ledger, General Ledger, Folio 65, T. F. Rowland, account of holder—and if you refer to the minutes of March 19th, 1872, you will find the contract was let for the erection of a

tank and holder. I transcribed to my Exhibit 122-A, an amount of $5,000, March 30th, 1872, Labor on tank and material in preparation of holder from the cash book. That is a literal transcription from the cash book. The transcription from the construction account of the words, "Material used in construction of a tank," is as it appears on the journal. I transcribed the same language so that in the Rowland account they had the words "Labor on Tank and material in preparation for a holder," and in this other account they had the language "Material used in construction of a tank." When this entry was made, September 17th, 1873, this account with T. F. Rowland had already been closed out and transferred to Construction under date of August 20th. 121-A at the bottom is a memorandum which says this bid was from T. F. Rowland for iron work on account of building the gas works. That contract was No. 2. There is such an account as Holder No. 2. That is 102-A. That holder apparently was built, or at least charges for it commenced to be made in 1874. I do not know where the material which appears on my Exhibit 129, sheet 2, in [fol. 2186] the entry of September 17th, Street Mains, $350.93 was used. Beyond that date of the journal entry, I can't tell when that material was used. The only thing I can do is just call your attention to that journal entry; that is the only data I had when that entry was made. At the time that journal entry was made, the company was constructing a holder, in September, 1873. It appears from the books that in September 1873 when this charge was made to the account Street Mains, the company was constructing a holder, but not after August 20th, 1873. That is when the special account of T. F. Rowland was closed out. Entries that referred to Rowland did not go into that account after August, and this entry of $350 was made in September.

Referring to an item, appearing on Exhibit 129-A, sheet 2, under date of December 30th, 1872, a charge to the account Construction transferred from Street Mains of $11,866.46, opposite which I have certain notations. I cannot state what the pipe, the description of which I have transcribed on my exhibit was used for, and not knowing for what it was used I am still of the opinion that it was correctly charged to an account which I consider the equivalent of plant account because it must have been used for construction or it

would not appear there and that is the only basis for my opinion that it must have been used for construction.

The minutes of February 21, 1882, page 222, show a notation there, "Bid of Messrs. Davis & Farnum of $8,000 for new condenser accepted." Now my construction analysis, page 4—Exhibit 129-A under date of June 23, 1883, Journal folio 295, the Construction account was charged with [fol. 2187] $4,519.71 and Davis & Farnum credited. And I have in there an item "Condensers" $4,500. That is one of the special accounts. There was an account Davis & Farnum Manufacturing Company, to which I referred in my testimony as one of the special accounts. On Exhibit 120-A is an entry of June 23, "By Sundries," and it says $7,339.71. I gave the detail there of what the item of $7,339.71 consists of. The $4,519.71 shown on page 4 of Exhibit 129 is a part of $7,339.71 shown on Exhibit 120-A. The balance of that $7,339.71, namely, $2,820, was charged to repairs, Purifying Pans, so that I have on my Exhibit 120-A, an item of $7,339.71 made up of $4,519.71 charged to Construction, which I have further separated as representing $4,500 for condensers, and $19.71 for lumber, and $2,820 charged to the account entitled Repairs. It was not a transfer from Construction. That is a transfer from Davis & Farnum Account. That sum never got into Construction. The journal at folio 295 shows this sum of $2,820, credited to the account Davis & Farnum Manufacturing Company, and charged to repairs, and that it covers purifying pans. I stated that this whole sum of $7,339 was one of the items as to which I found nothing in the minutes of the company. That has regard to trying to find the identical item in the minute. It is evident that this Davis & Farnum Account was what we call a creditors' account; they were creditors of this Nassau Gas Light Company, people with [fol. 2188] whom the company was doing business. That entry $2,820 was set up on the credit side, showing that the Nassau Gas Light Company owed Davis & Farnum the sum of $7,339.71. But that does not explain it, only what it says here in the journal. As to that transfer to the account entitled Repairs, I don't know whether I would call that a transfer or not. As I understand this entry here of $7,339.71, it was nothing more than an attempt to set up on the books a liability which this company had contracted

from Davis & Farnum. It was composed of condensers, $4,500, lumber $19.71, and these purifying pans. On Exhibit 120-A there are cash payments totaling $7,339.71. None of those cash payments is in the sum of $2,820. Regarding what transaction is represented by the credit to the account, Davis & Farnum Manufacturing Company and the charge to the account Repairs of $2,820 for purifying pans. My only explanation is the Nassau Gas Light Company received a bill from the firm of Davis & Farnum, amounting to $7,339.71. If they did not receive a bill, there was a liability for that amount of money for work that was done, which the company, when crediting the Davis & Farnum Account, ascertained, or some one did, that $4,519.71 of this particular bill should be charged to Construction, and the $2,820 should be charged to Repairs. What I intended to convey, is that from my experience as a bookkeeper and an accountant, I know that certain bills are split up that way, especially by the Disbursement Depart-[fol. 2189] ment of the Public Utility Company, after the bill has been passed upon or O. K.'d by the engineer or somebody in charge, who contracted that. It comes to this, that the books indicate that the item was split up. There is nothing in the books that indicates why. It indicates only the fact that it was thus split up. That is corrected in the books. On the bottom of this account Davis & Farnum, Exhibit 120-A I have a notation here, "See page 352 of the Minute Book, minutes of June 1st, 1888, for constructing new purifiers and bid accepted and contract made for $4,416." That is on page 352 of the minutes. That is the only explanation I have. That was the minute of June 1st, 1888. The item I am referring to is June 23, 1883, five years previous. The only thing I have concerned myself with is the fact that it appears in the Journal, that the repairs were charged, purifying pans $2,820. The date of this expenditure, according to the books, from the Journal, folio 295 is June 23rd, 1883. The date of an authorization of condensers is February 21, 1882, page 222. The date of the authorization in the Minute Book called to my attention is June 1st, 1888. It is not my view that an expenditure which is found in the books as of 1883 can be tied up with an authorization in the Minute Book found in 1888. I didn't refer to any particular item in the minute book to tie up

with this expenditure of 1883. There was nothing that enabled me to tie up that expenditure with some specific au-
[fol. 2190] thorization in the Minute Book. The reference in the Minute Book of 1882 that I referred to a few minutes ago was the fact that a bid was made with Davis & Farnum of $8,000 for new condensers and was accepted in 1882. That is, the minutes of February 21, 1882, found on page 22 of the Minute Book—those are condensers, but the expenditure of 1882 was for purifiers and condensers. The minute of February 21, 1882, on page 222 of Minute Book, read, "The Construction Committee presented report recommending the accepting of bid of Messrs. Davis & Farnum of $8,000 for a new condenser. On motion their report was accepted and recommendation adopted." There is nothing there about purifiers. I haven't any minute referring to the charge to the Repair account on June 23rd of $2,820 for purifying pans. I cannot tell from the books what the nature of that item of $2,820 was, only as reflected in the Journal. Journal folio 295 under date of June 8th, 1883, the Journal entry is as follows: "Sundries debited to Davis & F. Manufacturing Company," and then underneath appears "Construction"; then an explanation, "Condensers $4,500; Lumber $19.71, making a total of $4,519.71. Underneath that appears "Repairs," with the explanation, "Purifying pans $2,820," naming a total of $7,339.71. The books would indicate that charge had something to do with purifying pans. It is impossible to state just what it was. From my knowledge as an accountant, the books do not disclose that. I cannot tell any more than
[fol. 2191] what the books show. The Davis & Farnum account says that the minutes of February 21, 1882, authorizing the expenditure of $8,000 for condensers and books of account show that an amount almost half of the authorization, just a little more than half of the authorization was paid for condensers and less than the total amount of the contract in all was paid to Davis & Farnum. But I would not want to answer until I looked through the Construction Account. I may find payments there, referring to Davis & Farnum. According to the Davis & Farnum account, Exhibit 120-A, there is a case where a contract with Davis & Farnum for $8,000 is authorized for condensers; and all that is paid to Davis & Farnum is $7,339.71, of which

$4,500 appears to be for condensers. Under date of July 31, 1882, Journal folio 277, the repair account is credited with $6,228.92, and the Construction account charged with the explanation, "Davis & Farnum Manufacturing Company." Under date of September 30th, 1882, appearing in the amount for cash $1,676.95, you will find a payment to Davis & Farnum Manufacturing Company of $1,610, making a total of $7,838.92, being the payments for 1882. I don't know what those items I have just read were for, but payments on account of the contract for $8,000, founding the minutes of February 21, 1882 is how they were reflected on the books. They did not put all the payments to Davis & Farnum for the expenses in the Construction Account, or in the Davis & Farnum account either.

[fol. 2192] In the Journal entry on folio 277, there is an item of $6,228.98, crediting repairs and charging construction. It says, "Davis and Farnum Manufacturing Company charged in error." It did go into Construction. My Construction analysis, that is, Exhibit 129-A, folio 4, under date of July 31, 1882, shows a Journal entry which I have just quoted before. Under date of September 30th, on the same exhibit is an item for cash $1,676.95, an analysis of that figure discloses the fact that Davis & Farnum had a payment of $1,610. I am unable to give you the date. A correcting entry of an erroneous charge the $6,228.92 item is a correcting entry of an erroneous charge. Showing that it was originally charged to Repairs erroneously, and then taken out of Repairs and put into Construction. And that is the amount which found its way into Construction, not via the special account. I am unable to tell from my examination of the books, what the $6,228.92 applied to. The books do not disclose anything more than what I have told. I never mentioned the fact that this special account of Davis & Farnum Manufacturing Company is complete as to the items disclosed in it. I said when I put that into the exhibit that I could not tie it up with anything in the minutes, insofar as I had made the notes at the bottom, and that is reflected on the books. My statement is that I do not claim that Davis & Farnum Manufacturing ac-
[fol. 2193] count is complete as to the items contained in it. It doesn't appear from this that these special accounts only contain a portion of the payments made to the people

whose names were given. It appears from the questions that have been asked me and the answers that I have given that there were payments to Davis & Farnum other than the payments contained in the account "Davis and Farnum Manufacturing Company" March 31st, 1889, there was no such entry of payment of $65 and $2,312.24 to Davis and Farnum Manufacturing Company which went direct to Construction and never were in the Davis and Farnum account at all. The entry in the Construction account amounted to $1,098, made up of the following: M. H. Howell & Sons, $1,033; Smith & Sayre Manufacturing Company, $64. After the Smith and Sayre account had been closed out to Construction, there were payments of $65 and of $23,012.24 shown in the cash book on March 31st, 1889, which were charged direct to Construction and never went through the account Smith & Sayre Manufacturing Company. (Speaking of Exhibit 107-A) 107-A at the bottom, is a memorandum in which the president, see page 345 of minute book, minutes of meeting February 21st, 1888, the president presented bid of Smith & Sayre Manufacturing Company for condenser which was accepted, see page 346; the contract was $16,187; from this account here Smith & Sayre were paid $16,792. But those other payments you mentioned, there is nothing there to show that they were for the [fol. 2194] condenser. There is nothing to show what they were for at all, only as reflected on the books that I have got here. I cannot tell what the $65 and the $2,312.24 were for. And the contract on page 345 and 346 of the minutes, bears no relation to these payments of $65 and $2,312.24 so far as I am able to tell from the books. Reference to those minutes explains why those two items were charged direct to Construction and not through the Smith and Sayre account. It does in this respect: The special account was opened up for Smith and Sayre to gather in the cost of this contract of $16,187, and they accounted for $16,792; and then it was closed out to Construction on February 28th, 1889. My Exhibit 107-A covers the Smith & Sayre account only as far as I can tie it up with that contract of the minutes of the meeting of February 21st, 1888, and that is that $16,187. There is one on my Exhibit 107-A for J. F. Scholes and Company, $1.66, that is under date of October 5; there is one there for November 15th for $1 and G. P.

Jacobs & Company, January 23rd, 1889, $4.90. That $226 payment is all under that contract. I have an item of labor etcetera as per report F. S. B. I don't know whether F. S. B. were the initials of Mr. Benson as engineer of the works. I don't know whether the $18.54 item Labor etc. as per report F. S. B. was or was not the labor of the company's own employees.

[fol. 2195] On sheet 4 of Exhibit 129-A under date of June 30th, 1886 is a cash payment charged direct to Construction for $2,204.22 paid to Davis & Farnum. That is another payment to one of these concerns for whom a special account was opened charged direct to construction. I cannot tell what these payments to Davis & Farnum, and Smith & Sayre which went direct to Construction cover or apply to. I am unable to state positively that they do not apply to the same work which is involved in the special account Smith & Sayre Manufacturing Company and Davis and Farnum Manufacturing Company. According to page 346 of the minutes, February 21st, 1888, Smith & Sayre Manufacturing Company's bid was accepted for scrubber, condenser and connections complete for $16,187. The books do not disclose how much of that was for the scrubber or how much of it was for the condenser or how much of it was for the connections. My exhibit 129-A, Sheet 4, under date of July 28th, 1886 is a charge coming from the account entitled "Incidentals" of $47.65, with the explanation, "Labor &c, Account Davis & Farnum". The books do not show the nature of the labor or where it was performed, and yet it was charged to Construction and treated by me in my answer to Mr. Deegan's question as substantially part of the cost of the plant.

[fol. 2196] The Brooklyn Union Gas Company

Brooklyn, New York, July 17th, 1924.

JOHN JOSEPH WELSH

Cross:

The minutes show the appointment of a Construction committee at the commencement of the company's career.

Page 7 of the minute book, meeting of February 4th,

1871, resolution adopted appointing a Building and Construction Committee. I think afterwards it is referred to in the minutes as the Construction Committee I believe they leave off the word "building."

Referring to the cash book, numbered 119, there is $15 here on page 35 of the cash book, under date of October 27th. On page 49 there is $15 under date of December 9th. Under date of June 5th, $10; page 105 under date of June 27th $15, and on page 109, under date of July 9th, $10. From my examination of the books without actually making a further examination now on the stand, I don't know the practice of charging the salaries of the Construction Committee to the account Salaries continued. I believe these payments referred to in the minutes and the cash book, each member of the Construction Committee was to get $5 for attending each meeting. Salaries was an expense account.

I recall that a part of Mr. Benson's salary was credited to the account Salaries and charged to Construction. I consider that it was consistent to put the Construction Committee's salaries in the account Salaries and leave them there and take out a part of the salary of Mr. Benson. [fol. 2197] That is the different treatment if the salary of the Construction Committee and the salary of Mr. Benson is not in my opinion inconsistent.

I recall calling attention to the fact that in the minutes of May 16th, 1871 found on page 11, it was resolved to postpone construction. I find an item of $17,500 charged to Interest.

I could not say, without examining in detail this interest account that Ledger Folio 18, under date of April 29th, 1871, was charged originally to interest is not transferred to the account Gas. I find the sum of $17,500 debited to the Interest Account. The amount of interest as shown in journal folio 13 under date of July 1st, 1871, is $19,247.67. I don't know what that is. There is a charge here of $14.88 under date of June 30th, 1871, to the Interest account, and that appears in the ledger.

I am not able to state, not without an examination of that account, whether or not the item of $17,500 originally charged to Interest is a part of the $19,247.67 transferred to the account Gas. I would examine the Interest account,

and my reason for so doing, Colonel Dykman, is this: I remember rightly, the Nassau Gas Light Company was indebted to the Brooklyn Gas Light Company when it was incorporated for a certain amount of money. What it was, I don't know, but that is the recollection I have from my perusal of the books. The two folios of the ledger and the journal show me that no interest was charged into the Construction account. It doesn't appear here on this ledger, [fol. 2198] my Exhibit 129-A does not show any interest, consequently the books do not show any charge to the Construction account for interest. I wouldn't say that this ledger, the Interest Account, Folio 18, shows that the Interest account was closed out at the end of each year to the account entitled Gas, because there are several credit items in here. There is one here, "June 1st," 1871 crediting the Brooklyn Gas Light Company, $19,427.78. Then there are several cash items here. What they were for I don't know. I appears that the balance of the account Interest at the end of each year is closed out to the account Gas. The transfers were July 1st, 1871; December 30th, 1871; June 29th, 1872; December 31st, 1872 and June 30th, 1873. That is all on this folio.

I do not know what the interest applies to. At the cash book, page 5, there is the item of $17,500. That is interest on certificates of indebtedness, but what I have reference to is the other items in there. I don't know about the whole account. The interest is interest on the Company's own certificates of indebtedness.

In the account Taxes at Folio 19 of the ledger, there is a charge of $1,984.84 on November 29th, 1871 and in the journal page 18 that amount of Taxes is transferred to the account Gas on December 30th, 1871. The books do not disclose that both the item of interest and the item of Taxes were incurred during the period of construction. The books disclose the dates when the interest was paid. I would [fol. 2199] have to examine what I made up, to say whether I found contracts for construction during that time recorded in the minutes. I don't know whether the dates were the same as these dates. During that period of the Company's history it was engaged in construction in 1871.

I wouldn't want to say that during this period the balance of the Gas account at the end of each year is closed out to Profit and Loss, because there is a credit here on the

Gas account and in another year there is a debit; debiting Profit and Loss and crediting the Gas account, and then crediting Profit and Loss and Debiting the as account. Whether he balance would be a debit or a credit at the end of each year, that balance was passed into Profit and Loss.

Referring to Exhibit 106-A, at page 28, March 6th, 1872 "On motion it was resolved that the president be authorized to enter into a contract in conformity with the specification with the following names parties: Mr. J. H. Whittier for setting benches and two chimneys for the sum of $5,000." I never found the specifications. The books do not disclose how many benches were set.

The account shown on my Exhibit 108-A "Shop Expenses, Building," was considered in the books of the company with the following name, "Shop Expenses, Building." That is the way the account read in the general ledger.

In my opinion the Nassau Gas Light Company owned the [fol. 2200] land on which this building was erected, and I would call it a fixed capital account. It was so treated on the books as only being leased ground and this building was charged off to Profit and Loss over a period of five years as covered by the lease of the lot. This account was not treated by the company as a Fixed Capital account. The Nassau Gas Light Company, really owned, this lot. Mr. Mount's Exhibit No. 257 is incorrect in that respect. Counsel's investigation, as far as it has gone, shows that they did not own the lot, but that later bought another piece of property and that agrees with what I found out.

Turning to Exhibit No. 109-A the E. D. White account records do not disclose how many retorts are involved in that account and that is one of the particular special accounts that I was unable to tie up specifically with any special minutes. I am not able to tell whether Mr. E. D. White sold retorts or merely set them, the way that Mr. Whittier set benches, only as reflected by the analysis I made of his account.

From the result of my analysis it seems to me that he sold retorts because under date of April 30th, in the cash book there was a payment made of $3,289.05, and the explanation was "Retorts furnished." Prior to that there were some payments, one of December 31st, 1872, $5,000, and there was a payment on December 5th, 1872, "Materials

Furnished." I am not able to state from the record whether he also installed retorts.

[fol. 2201] The analysis of Exhibit 110-A The Whittier Elevator Company account does not show where they were installed, but referring to the minutes on page 345, meeting of February 21st, 1888, I will quote: "The Engineer being present with plans and specifications for the proposed extension of the works, the president submitted proposals from the following names parties: Elevators, Whittier Elevator Company, $2,165." And from that I assume that they were installed at the works. I don't know what part of the works nor the capacity of the elevators. As an accountant I would say the books do not disclose by what means they were operated, what sort of power.

My Exhibit 111-A, the John H. Deeves account is presented as payments on a contract with John H. Deeves and Brother for mason work for retort house, boiler house and condenser room. I am able to state whether this is the complete cost of the mason work on the retort house, boiler house and condenser, as reflected in the minute book here and also in the total debits appearing in the John H. Deeves' account. They made an error in accepting a bid of $23,341, which was afterwards increased to $25,342 and my exhibit in addition shows that they paid $26,680.12. I may say here that there is on Folio 346 of the minutes of February 21st, 1888, a quotation, "They to give satisfactory bonds to the amount of $10,000 for faithful performance of contracts." I may say that is really one of the first explanations I have ever had of any of the contracts of this company, such notes about the bond. I mean any more than [fol. 2202] that is the first instance of a bond. The books do not enable me to separate the masonry work on the retort house from the masonry work on the boiler house or condenser room, or to give the masonry work on any one of the three items embraced in the contract.

Referring to page 349 of the minute book, Exhibit 113-A, meeting of March 22nd, 1888, there are notations of bids submitted for the extension of works, and Libby & Keese submitted a bid as follows: "Carpenter work; cokeway, $2,371; boiler house, $2,210, and the bid was accepted for the sum of $4,581."

I am not able to state the nature of the extension which I have noted on my exhibit, except extension of works.

On Exhibit 114-A the account of J. & J. Van Riper, a stable other than that one as to which I have testified and which is included in the account I was asked about, the books do not disclose where the stable was situated, but, referring to the minutes page 352 of the minute book, meeting of June 1st, 1888, I quote the following: "At the special meeting of the Board of Directors held this day at the works, the president presented bids for the erection of a stable," and then on page 353 reports the acceptance of the bid for $3,780. I was not able to find anything with reference to that stable except it is masonry work by J. & J. Van Riper and carpenter work by Stephen Randall, which is set out on My Exhibit 115-A. All I can direct your attention to is that minute book 352, the meeting of June 1st. That merely states the acceptance of a bid and the meeting [fol. 2203] of the directors was held at the works. I assumed only as reflected on the books there that Stephen Randall's carpenter work and J. & J. Van Riper's masonry work was on the same stable. As an exper- accountant, my opinion would be the explanation as reflected in the books and in the minute book. From this I concluded that Stephen Randall and J. & J. Van Riper worked on the same stable. I was not able to find any other items or any other expenditures for that stable beyond the mason work by J. & J. Van Riper and the carpenter work by Stephen Randall, unless it may be reflected in any other special accounts you have not called my attention to. Those two accounts are all in which it is shown, I think.

I cannot state whether the J. & J. Van Riper account is for labor and material or merely for labor or merely for material. The only explanation I can give is that the payments were made on account of contract. Stephen Randall's is just on account of contract.

On this Exhibit 115-A, S. M. Randall, at the bottom of that exhibit refers to the minutes, "The President presented bids from Stephen Randall for carpenter work." That indicates to me that it may be both labor and materials or one or the other, whatever was in the contract. It just says, "on account of contract," the payments were made

on account of contract. The entries in the books do not disclose whether it was for work only or for work and material. The way that appears is, carpenter.

[fol. 2204] The books in my exhibit 116-A Continental Iron Works account do not disclose for what building or buildings the roof and sundries were contracted for, but I might direct your attention to the minutes of March 22nd, 1888, page 349 of the minute book, "Mr. President presented bids for the extension of the work." Beyond the fact that this was a roof for something involved in an extension of the works, the books disclose nothing, and they did not disclose whether the roof is on one building or on two buildings, nor what the sundries embraced.

In Exhibit 117-A there is an amount, December 31st, 1888 incidentals 426, $109.20, material furnished as per report of F. S. B. The books do not disclose the nature of the material or whether or not it was material furnished by the company itself for the work upon which Mr. Bridell was engaged. It just says here, "Material Furnished as Per Report of F. S. B."

My exhibit has a reference to a report or a contract, these reports or specifications and plants and contracts were not available to me. I could not get farther than the entry which I have mentioned here. That is all I have. I did not look at the account entitled "Incidentals." I cannot state whether or not that account discloses the information as to the material embraced in this item unless I examine it. I am not able to state the account Incidentals covered. I remember finding a Mr. Benson, I am not so positive about the initials. I might verify it. I will concede that a man by the name of F. S. Benson has initials F. S. B. I don't [fol. 2205] recall whether the initials F. S. B. are the initials of Mr. Benson. I am unable to tell what this account entitled Incidentals which commences on Folio 126, covers unless I make a detailed analysis of every item in it. I did not make such an analysis. By detailed analysis I mean reference to the book of original entry.

Referring to my Exhibit 118-A, the Jesse W. Starr & Son account I assume, for Jesse W. Starr & Son who were contractors. The books do not disclose that this particular account, James W. Starr & Sons, were contractors. It is

disclosed elsewhere. I believe one of the holders, Holder No. 2, had a contract for iron work. There are entries in this account with reference to Holder No. 2 and there is also an account entitled Holder No. 2.

My Exhibit 119-A, Account Henry Case, I present as involving a contract with Henry Case for piling. The books did not disclose where the piles were driven. I know that the work was done in that period in which they had extensions made to the works. That is all. Apparently it was something done at the works, but, whether it was a dock or whether it was a foundation for a building or a holder the books do not disclose.

Exhibit 120-A, Davis & Farnum, I present as involving in part a contract for a floor. The books do not disclose to me where the floor was laid, in what building. I also present it as involving a contract for purifiers. The books do not disclose to me how many purifiers there were, or their capacity.

[fol. 2206] Exhibit 121-A, the T. F. Rowland contract No. 2 Account, I present as involving a contract for iron work in building the gas works. The books do not disclose where in the gas works the iron work was installed, or its nature.

The quotation at page 27 of the minute book, March 25th, 1872; says: "The president stated that the object of the meeting was to open proposals for building the gas works." To do the iron work they received a bid from T. F. Rowland for $98,000. I am unable to state whether or not it concerned a holder, except that it was iron work. Nothing there enabled me to say whether or not the iron to be furnished by these people was with reference to a holder.

My Exhibit 123-A, the account Holder No. 3, has two items October 19th, 1886, Sundries, the first in the amount of $776.59, and the second in the amount of $128.67. The books do not disclose whether or not these items represent labor and material which were furnished by the company itself. I am of the opinion that it was furnished by the company.

I present Exhibit 125-A, the account S. M. Weeks, as involving a contract with S. M. Weeks for carpenter work for construction of the gas works. The books do not disclose what Weeks did, or in what portion of the works he

did his carpenter work. With reference to the other contract for carpenter work; that is, whether this contract involved labor and material or simply labor alone or material alone, I refer to S. M. Weeks, the first entry under date [fol. 2207] of August 31st, 1872, $5,500, there is a payment there on August 6th which says, "Labor and material account of contract." That is, in this case they itemized and say plainly that it is labor and material Contract April 11th, 1872, and in the other case they do not.

From the fact that in this case they set out carefully the words "labor and material," I do not as an expert accountant draw any inference with reference to the other cases where they do not. I have had some accounting work to do at times for architects, and I know from familiarity with building contracts, that labor and material is generally covered in a contract; it just says contracts.

My experience began in 1918, I ran a set of books for the United States Government, for one of the largest architects in the City, the United States Housing Corporation, building the Newport News Shipbuilding Works, down at Newport News, Virginia. This of course is back in the 70's.

In 1885, at the time this property was acquired by the Brooklyn Union Gas Company, there was a set of 24 benches of 6's in one house, and 14 benches of 9's in another house. I am not able from my investigation and examination to state the cost of 24 benches or the 14 benches from the books. A little farther north of the place where these benches were, was the Wilkinson process in which retorts and gas generators, four in number. I am not able to state from my examination the cost of the Wilkinson process with those retorts and generators.

[fol. 2208] The retort house was a brick building with a slate roof. I am not able from my examination to state the cost of construction of this building with its slate roof, or from my investigation and examination to state the cost of those three 250 Horse Power porcupine boilers called Hazelton boilers. I am unable from my examination to state the cost of any of that apparatus in the engine room. There was a station meter with a 12 foot drum, and a capacity of 1,800,000 cubic feet.

Page 346, February 21, 1888, American Meter Company, station meter $41,180 the bid was accepted for meter and connections complete for the sum of $4,180, cross-examination of Mr. Benson, testified that there was another station meter. Under date of August 30th, 1873, my construction analysis, that is Exhibit 129-A page 2, refers to Journal folio 43, and there is an amount in there of $5,237, and my explanation is "A contract dated March 16, 1872." I believe that refers to a station meter. That is the explanation I got, contract dated March 16, 1872, $5,237. The books enable me to determine that there was a contract with the American Meter Company, dated March 16th, 1872, for $5,237. That was for a station meter. That I cannot say until I find it in the minutes, whether the books disclose the capacity of that station meter in 1873. I want to see if I can pick it up in the minutes here. I remember coming across it somewhere, but I cannot pick out the identical folio (examining books). They do not disclose it, but the books disclose the cost. I have a record in the books of the cost of two station meters, at two different [fol. 2209] dates. One is 1872 and the other is 1888. The capacity of either one of those station meters is not stated in the books, so that I can tie it up with the amount that I find recorded, but, if I had the dates that these meters were installed I could *fix* the cost of each one. I have recorded amounts paid for two station meters, but the records do not disclose the capacity of them and therefore, do not disclose which amount applies to the meter of 1,800,000 cubic feet capacity, which Mr. Benson testified about and which applied to what he called the other station meter.

Referring to Exhibit 110-A, the Whittier Elevator Company account, the President reported having entered into contracts with the Whittier Elevator Company to make alterations in the motive power of the elevators for the sum of $2,870, and which was, on motion, approved. That is two years after the entries shown on my Exhibit 110-A and the amount of the contract for alterations exceeds the amount originaly paid as shown on my exhibit 110-A, but the books do not disclose to me whether these repairs were made on those specific elevators.

I find in the books a payment entered here December 31st, 1888, in an amount appearing $23,670.04, on Exhibit 129-A,

page 5, a payment of $2,150 to Whittier and Company. The entry does not disclose what it is for. That was just the time that the Whittier Company was putting in the two elevators which are shown on my Exhibit 110-A. According to that Exhibit 110-A that work was furnished or the last payment was made on November 10, 1888.

[fol. 2210] There is some confusion there, that there might be two concerns named Whittier, one named Whittier Elevator Company and the other Whittier & Company. I have a reference to the ledger or the journal for that last item, Journal folio 426, Exhibit 110-A, so that we can determine whether or not it is the Whittier Elevator Company. Journal folio 426 is the transfer of the $2,150 shown on my Exhibit to the Construction Account. That is the same item so that I have not discovered any additional payment. I did not find anything in the books indicating that there were more than two elevators.

As an expert accountant in examining those books as to whether I would or would not assume that the subsequent contract made in 1890, with the party who installed the elevators in 1888, was or was not with reference to the same elevators. I can only be guided by the facts as they appear in the ledger, on the books of original entry of this company, and I would say that I can erase any confusion from your mind by pointing out to you there is a notation here on 395 of the minute book, my attention is just drawn to it, and I would like to quote it:

"The President reported on January 22nd, the explosion of the tank which operated the elevators, had occurred, temporarily disabling them." That was in 1890, February 19th, and doing some damage to two of the condensers and the building in which they were located. The president presented a communication from the engineer, recommending some changes in the motive power of the elevator, that, in his judgment, would render a like accident impossible, [fol. 2211] and which would involve an outlay of $2,870." I do not find anything that throws any light upon that question, that these repairs were to the same elevators, the construction of which is recorded there. I may say that I would have to trace out this $2,870, to find out what account it was finally charged to. I don't know how long it will take

me to do that; it would be some analysis to be made; it might have gone to repairs.

I am not able from my examination to state the cost of that other building in addition to the retort house, containing the boiler room and shops, and another building containing the purifying apparatus, the coal gas condensers and the coal gas engine room. From my examination I am unable to state the cost of tar extractors and three sets of atmospheric condensers and washers and two rotary scrubbers. I believe there is a special account set out in the Construction ledger for a brick office building at the corner of Tenth Avenue, which is still standing, but in which there have been several alterations and extensions, and I did not analyze it. I thought I saw an amount appearing on Mr. Mount's Exhibit 297 (handing paper to witness).

On Mr. Mount's Exhibit No. 297-A appears Office Building. Under the column Total, $22,403.45. Under the column Ledger Balance, $22,403.45. I did not examine that account, but if my recollection serves me right, there are notations in the minute book of this Nassau Gas Light Company referring specifically to that office building. I am unable to say that the amount which I have just read from Mr. Mount's Exhibit No. 297-A is the original cost of con- [fol. 2212] struction of that building, unless I make a detailed analysis of that account. I am not prepared at the present time to state the original costs of that building because I have not prepared myself to do it. There wasn't any such scope in my examination. Without having studied the books with that in mind, I am unable to testify whether or not there is data in the books which would disclose those costs.

An accountant could not say he was familiar with the term "Undistributed Structural Costs". It seems to me from my experience with architects' offices, it might be an engineering or an architectural question. I am not familiar with it nor with what is called, in the Uniform System of Accounts, Engineering and Superintendence, and Law Expenses During Construction, and Injuries During Construction, Taxes During Construction, Interest during Construction and Miscellaneous Construction Expenditures.

There is one particular one, on Exhibit 129-A where you will find Law Expenses, with that exception there are none

recorded and set forth on my exhibit, not to my knowledge. Mr. Benson's salary is included also; I believe I have testified to that and that might be another exception.

I have included in my exhibit of Law Expenses, on Exhibit 129 which is somewhere in the neighborhood of $680, I think. And an item for Mr. Benson's salary in the neighborhood of or something more than $5,000, with that excep- [fol. 2213] tion there are no such items on my exhibits to my recollection. I am familiar with my exhibits.

On my exhibit 108-A for account of the "Shop Expenses, Building," there is included an insurance item. There is insurance there, $12.75, under date of May 31st. I have also included taxes. Those amounts never got into the Construction Account, in fact this whole exhibit did not. That account is treated as an expense account, Exhibit No. 121 on the T. F. Rowland contract No. 2 under date of November 27th, 1872, $422.40 insurance. Under date of January 31st, 1873, you will find $141.15 interest.

To my mind as an accountant, I can assume—I am of the opinion that when the contract was made with Mr. Rowland, that property which was on the ground or on the premises of the company belonged to the company, and they insured it and paid a premium in this amount, the $141.15 interest was paid. That is the same thing. What it specifically was for I don't know. Now, the T. F. Rowland account of holder, Exhibit No. 122-A, on that you will find under date of November 30th, 1872, $75 for Insurance, and you will find under date of January 31st, 1873, $75 for Insurance, and also Interest on Certificates, $35.29. That is all I find. There appear on my different exhibits numerous items for miscellaneous expenditures, and they may be in there, but the items were so small at that time, at the time I made my examination, that I did not set them out in great detail, but that I am not positive about. I cannot say one way or the other, whether those miscellaneous items apply [fol. 2214] to any of these elements which I call Undistributed Structural Costs. I have now given all the items of that character which appear on my exhibits, including that 129-A Exhibit with reference to the salary of Mr. Benson and the Law Expenses.

In Exhibit 106-A, the J. H. Whittier account is an credit of $300. The ledger at page 83, does not disclose what that

credit of $300 was for, but in that same account under date of November 14th appears, "J. H. Whittier, special error", and refers to Folio 24, $300.

Folio 78, "J. H. Whittier, special contract," under date of November 14th is "By J. H. Whittier, error, $300," and on the same date on the debit side $300, "Error, charged wrong account" is the explanation. As reflected by the books, I believe it is the corresponding charge in my opinion That $300 never got into the Construction account.

I made no careful analysis of all the accounts entitled Mains and Services and Meters. The Construction Account contains in my opinion substantially the cost of the items contained in it, and there are transfers to Construction from the Mains account and from the Services and Meters account. That being the fact and without analysis of these accounts from which the transfers are made I still state that in my opinion the Construction account contains substantially the cost of all the items in it.

On my Construction analysis, I have given the details of all that, of what those items are, on my 129-A Exhibit. I [fol. 2215] do not mean that the items which came from the account which I have not analyzed should be subtracted and not considered in stating my opinion on substantial cost. I checked the entries from the ledger to the journal and the cash book, but did not check the entries in the cash book and in the journal to the ledger; that is, in the opposite direction.

Every item on these exhibits that I have presented for examination I have taken from the general ledger and have traced every one that appears in the general ledger to the books of original entry and satisfied myself that whatever was in those particular accounts is correct. That is, reflected in the cash book or journal. If not, I would have made a note like I did the other day when I called attention to the errors I found in the Services and Meters account. If there be in the journal or in the cash book other items which are marked for the Construction account, but which as a matter of fact, were not posted in the Construction account in the ledger, my examination would not have disclosed that fact.

As a rule, all accountants, when they examine the books of any company, and it is particularly my experience,

generally work from the general ledger of the company or the operating expenses and general ledger of a public utility company—you work on the basis that every item expended for those particular accounts, whether it is Construction, Operating Expenses or General Ledger Expenses, such as [fol. 2216] Cash Balance in Banks, Stocks Owned, and so forth, are regarded as substantially correct in those ledgers and you use that for your basis, the general ledger. It is a fact that to ascertain whether or not the journal or the cash book entries have been properly posted in the ledger requires a checking process from those books of original entry to the ledger. I check every entry in the books.

This item of $300 to which I just referred, and to which on the ledger folio there is no reference showing the account to which it is charged, it would mean checking up every entry in the journal. By checking up every item in the journal I can ultimately find where that is posted if it is posted. I would have to page the whole journal.

[fol. 2217] JOHN JOSEPH WELSH

Redirect:

I stated that I am unable to identify the cost of certain particular pieces of apparatus and equipment. In my experience as an accountant, from my examination of the books of public utility companies, I have not been able to identify specific items of equipment or apparatus, the cost of which apparently is carried in Construction or other fixed capital accounts.

Referring to a number of these accounts other than the Construction account; Street Mains and Services and Meters and so forth, which I testified I had not analyzed, I found that certain transfers had been made back and forth to Contingent or to the Profit and Loss account. In my examination of the Construction account I did not find that it was the practice of the company to make similar transfers, no such transfers from Construction to Profit and Loss. That was already in. The transfers to the Profit and Loss account of these other accounts in my opinion do not affect the Construction account. It would be fair for me to add, "Except in so far as any of the accounts thus charged into Profit and Loss ought properly to have

been charged into Construction," if any such incident exists. If that were correct, that would mean an analysis of that particular account.

[fol. 2218] BENJAMIN COHEN

Direct:

I made up Defendants' Exhibit 171 for identification. The source of the figures are the company's reports, annual reports of the Brooklyn Union and Subsidiaries to the Public Service Commission for the year 1923.

Column 1 of the exhibit shows the amount of the Gas Merchandise and Jobbing Revenue reported by these companies to the Commission for the year 1923.

Column 2 shows the amount of the Promotion Expense so reported.

Column 3 is the percentage which the total of the Gas Merchandise and Jobbing Revenue of the subsidiaries bears to the total for the system. That is my calculation. That is true of the first figure. The second figure is the percentage which the Gas Merchandise and Jobbing Revenue of the Brooklyn Union bears to the System, that is all my calculation. The first figure in the last column is the amount which results from the application of the percentage in the preceding column to the Promotion Expenses of the System. Also my calculation, and the figure below it, the amount which the percentage opposite that in the preceding column results in when applied to the Promotion Expenses of the System.

On Defendants' Exhibit 171 for identification Gas Merchandise and Jobbing Revenue—that is, both the Gas Merchandise Revenue and the Jobbing Revenue are shown. On Defendants' Exhibit No. 167 only the Gas Merchandise Revenue is shown in the first column. The figures in the second column are identical on both exhibits, the ratios naturally being based upon the respective amounts of the [fol. 2219] revenue, and they are naturally dissimilar, and so are the figures in the last column which are based on the percentages in the column preceding.

I originally made up Defendants' Exhibit No. 171 for identification first, but discarded it and afterward made up Defendants' Exhibit No. 167. I believe Defendants' Exhibit No. 171 for identification to be correct.

Mr. Cummings: I offer that in evidence, your Honor.

I did not make up Defendants' Exhibit 171 for identification after my cross-examination on Defendants' Exhibit No. 167. Exhibit 171 was made up over a month ago, and prior to Defendants' Exhibit 167.

The figures on Defendants' Exhibit No. 171 for identification were made up at the time of Mr. Payne's cross examination by Mr. Cummings, and that was used by him at that time in cross-examining Mr. Payne, at which time I began work on Defendants' Exhibit 167.

Mr. J. A. Dykman: Yes, sir, I object to it as incompetent and immaterial, and also as not proper redirect, but redirect after cross examination on Defendants' Exhibit No. 167.

(Defendants' Exhibit No. 171 for identification was thereupon received in evidence.)

The Master: The witness is yours, Colonel Dykman.

[fol. 2220] BENJAMIN COHEN

Cross:

The exhibits prepared by me are Defendants' Exhibits Nos. 166, 167, 168, 169 and 171. Three of those exhibits, Nos. 167, No. 168 and No. 171 are in evidence. Nos. 166 and No. 168 are awaiting Mr. Little's testimony.

Defendants' Exhibit No. 168 is not in evidence, so that we have only two exhibits in evidence through the testimony of this witness, namely, Defendants' Exhibits Nos. 167 and 171.

On my Exhibit 167, I have the sum of $26,498.36 applying to Gas Merchandise Revenue alone. On my Exhibit No. 171, I have the same item of commercial expenses applying to Gas Merchandise and Jobbing Revenue.

Archibald S. B. Little was called as a witness on behalf of the Attorney General and, being sworn, stated his qualifications as a gas engineer, the cases in which he had testified and his investigation of plaintiff's property and operations. He then presented exhibits concerning investment, prices and operating cost. Upon conclusion of his direct an adjournment was taken to enable plaintiff's counsel to prepare for cross-examination. Upon the day set for cross-examination the witness not being available his exhibits were withdrawn and his testimony stricken out as shown in the record.

[fol. 2221] Frank Saffer

Direct:

I personally prepared Defendants' Exhibit 180 for identification.

It purports to show the dividends paid by various vendor companies up to the time of purchase in 1895. The dates of payment and the amounts as shown in this exhibit were taken directly from the ledgers, various ledgers; the rate of dividence, and, in most cases, the number of the dividend were taken from the various minute books of the vendor companies, and it is absolutely correct.

Mr. Cummings: I offer it in evidence.

Frank Saffer

Cross:

These exhibits are merely transcriptions from books in evidence. They involve no calculation by me whatever. I have calculated the average rate of interest. I was going to qualify it by that, aside from the notes which appear at the end of the sheets devoted to particular companies, where an average dividend is stated it is all transcription, with the exception of totals at the end of each year. That is they show the total for the year.

The rate of per cent., dividend is what I meant by the total, the total amount paid for each year and the total of the rate for each year are my figures, but the rate of the in-

[fol. 2222] dividual dividend is taken from the minute book and that represents the rate of dividend on the par value of the outstanding stock on which the dividend was paid.

(Marked Defendants' Exhibit No. 180 in evidence.)

[fol. 2223] Brooklyn Union Gas Company, July 29, 1924.

OFFERS IN EVIDENCE

Mr. Cummings: If the Court please, I offer in evidence a tabulation of quotations, the source of which is from the Financial Chronicle. This tabulation shows quotations of the Brooklyn Gas Light Company; the Citizens Gas Light Company and the Nassau, and some script of the Nassau, apparently; the Peoples Gas Light Company and the Metropolitan and the Williamsburg and some bonds, first 6's of the Williamsburg Company; the Fulton Municipal stock and also their 6 per cent. bonds; the quotations being from July 6th, 1895 to August 31st, 1895. These really are the quotations which antedated those which the plaintiff has put into the case. As a matter of fact, the quotations run from July 6th, 1895, to October 26th, 1895, I find. I understand the plaintiff has no objection to these.

The Master: They may be marked for identification.

Marked Defendant's Exhibit No. 181 for identification.)

Mr. Cummings: Now I offer in evidence the Public Service Commission Law, being Chapter 429 of the Laws of 1907.

No objection.

(To be considered Defendant's Exhibit No. 182.)

Mr. Cummings: I offer in evidence Chapter 737 of the Laws of 1905, which created the Commission of Gas and Electricity and gave them certain powers.

No objection.

(To be considered defendants' exhibit No. 183.)

[fol. 2224] Mr. Cummings: I offer in evidence the Transportation Corporations Law, the article applying to gas companies.

The Master: By consent of counsel, that is admitted.

(To be considered Defendant's Exhibit No. 184.)

BENJAMIN COHEN

Direct:

I prepared Defendant's Exhibit No. 185 for identification. This schedule purports to show the Federal Income Tax payable by the Brooklyn Union Gas Company, on its earnings from the gas business from the year 1924, based on revenues and expenses which are in evidence. That is, the revenues were taken from Defendant's Exhibit No. 168 which is in evidence. I have noted on the exhibit "Production Cost," the source of that figure. That is Defendants' Exhibit No. 172 in evidence, and the Cost Beyond the Holder is Defendants' Exhibit No. 175 in evidence. The books of the Brooklyn Union Gas Company do not show separately the Federal Income Tax which the company pays as a result of its gas operations. The Brooklyn Union Gas company's books show the Federal Income Tax in one item. The Company has revenue from the gas business, it has revenue which is a return on investment, paid to it by the subsidiaries on the property of the Brooklyn Union Gas Company used by them, and it also has rev- {fol. 2225} enue from investments, but the taxes are not segregated according to the source of the revenue. The source of the revenues and expenses is indicated on the sheet, as I just stated. The deductions are made as follows: The interest on the funded debt is an apportionment of the bond interest between the revenue which the company gets—rather, between the amount which applies against the following property: Property of the Brooklyn Union Gas Company; that is, Fixed Capital of the Brooklyn Union Gas Company, devoted to its own gas business. The total amount of interest on funded debt which the Brooklyn Union Gas Company pays in a year is $1,640,530. That is the interest on its outstanding bond issues. In addition to that there is interest on consumers deposits, and a few smaller deductions which I did not make here, they were too small. The interest that I have taken on consumers deposits is shown on the schedule and amounts to $112,000.

That is based on the amount of consumers deposits outstanding on December 31st, 1923. I also have the amount so outstanding on June 30th, 1923, which is greater than that. I took the smaller amount of the two, in order to be perfectly safe. $112,000 is added to the interest on bond issues. Those are the only two items I took the total of; those two items amount to $1,752,530. In addition to those two interests item I deducted uncollectible bills before I computed the tax, because that item had not been taken into account in Mr. Little's exhibit. That amounts to $54,- [fol. 2226] 849. I first apportioned the bond interest before I made any summation of these items, between the property of the Brooklyn Union Gas Company—between the Fixed Capital of the Brooklyn Union Gas Company which is used in its own business, the Fixed Capital used for subsidiaries and the amount of the investments which the Brooklyn Union Gas Company had as of June 30th, 1924. The amount of money I apportioned is $1,640,530. I only apportioned the bond interest. The consumer's deposits I did not apportion.

The ratio I used between the Fixed Capital of the Brooklyn Union Gas Company used in its own gas business at $47,904,141 and the Fixed Capital of the Brooklyn Union Gas Company used for subsidiary companies, which is $6,656,384, and its investments amounting to $6,953,534. The uncollectible bills and the interest on consumer's deposit I applied as a deduction applicable to the gas business only, without any apportionment to any other figure. After I made my apportionement of the interest on the funded debt, the figures that I took was $1,640,530. The interest on the funded debt which I got as the result of the apportionment as being applicable to the property used by the Brooklyn Union Gas Company's own business was $1,277,481. I might state that the basis of that apportionment is the ratio shown on Mr. Little's Exhibit.

Defendant's Exhibit 177 in evidence for Fixed Capital of the Brooklyn Union, the ratio that bears to the amount of [fol. 2227] the Brooklyn Union Gas Company's property used by the subsidiary companies. I am referring in my last statement to Defendant's Exhibit No. 177 marked for identification showing the apportionment between the Brooklyn Union Gas Company and the subsidiaries as

made by Mr. Little. I will give you the percentages which the various items bear to the total of these classes of *classes of* property. The percentage of the Fixed Capital which the Brooklyn Union Gas Company uses in its own business is 77.87 of the total. The amount used by the subsidiaries of the Brooklyn Union Gas Company from this property is 10.83 per cent, and the investments amount to 11.30 per cent of the total. Those are the percentages which I used in making up the figure of $1,277,481. Those are the percentages which appear on Defendant's Exhibit 177. I worked these figures on Fixed Capital out which I have just given, from Defendant's Exhibit No. 177 for identification, but the figure on investment, the 11.30 per cent which I read out last, is not based on any exhibit at all. I don't know that my statements of the percentages are quite clear. Perhaps I had better explain it.

I went to the company's books and obtained the amount of Fixed Capital on the company's books on June 30th, 1924, which was $54,560,525. I applied to this Fixed Capital the percentage taken from Mr. Little's Exhibit 177 for identification, which I explained before and which amounts to 12.02 per cent. for the subsidiary companies of the total [fol. 2228] Fixed Capital of the company, and obtained as the amount of the Fixed Capital the figure which I just gave applicable to the subsidiary companies as $6,656,384. That left for the Brooklyn Union itself $47,904,141 Fixed Capital as of June 30th, 1924.

In other words, I divided the Fixed Capital as of June 30th, 1924, as appearing on the books of the Brooklyn Union Gas Company between the Brooklyn Union Gas Company and subsidiaries on the ratio developed from Defendant's Exhibit 177 for identification. To that I added the amount of the investments shown on the Company's books on June 30th, 1924, amounting to $6,953,534, the reason being that the bonded indebtedness of the company is represented by Fixed Capital and investments as well in the case of the Brooklyn Union. That gave me the total of the property that I so considered as $61,514,059. Having arrived at that, I got the percentage which each item stated here bears to the total, and obtained for the Fixed Capital of the Brooklyn Union Gas Company devoted to its own gas business as 77.87 per cent; that devoted to the subsidiary companies

as 10.83 and the amount of the investments of the Brooklyn Union as 11.30. I then multiplied the interest on the bonded indebtedness of $1,640,430 by the 77.87 per cent just stated, and obtained as the amount of bond interest applicable to the Brooklyn Union Gas Company's property used in its own gas business as $1,277,481, and that amount I used as a deduc-
[fol. 2229] tion, together with the amount of interest on consumers deposits, amounting to $112,000 and the amount of uncollectible bills, being $54,849. Those are allowable deductions from the income before figuring any income tax. Those three items total $1,444,330. I deducted that from the income and got $1,733,198 in the first column as the amount of the taxable income, and below it, $216,650 as the amount of the tax at 12½ per cent. I figured the tax on two bases; on the first basis I used the production cost of Mr. Little on Mr. Little's Exhibit No. 172 as shown on page 10, which is the production cost at the Metropolitan Works. In the second column I figured it on the basis of the production cost shown on page 14 of Mr. Little's Exhibit No. 172, which is the production cost of the combined plants of the Brooklyn Union Gas Company. The tax under the combined figure is $173,578. The only difference between the two computations is that for my production cost I used the figures shown on Mr. Little's Exhibit No. 172 as applying to the Metropolitan Plant alone, and in the other case I took the production cost as shown by all of the plants.

[fol. 2230] July 28th, 1924.

GEORGE WAGNER

Direct:

I have been in the employ of the Public Service Commission as Assistant Electrical Engineer for one year. Previous thereto I held the position of Junior Electrical Engineer with the Public Commission. Before the first Public Service Commission was created I was Junior Electrical Engineer with the Transit Commission, and Junior Electrical Engineer with the Public Service for the First District. I was connected with the Transit Commission and the Public Service Commission for the First District since 1918. The nature of my work since 1918 has been

checking capital expenditures for rates and capitalization of public utility corporations. Defendants' Exhibit No. 186 for identification was prepared by me and under my supervision. In the preparation of Defendants' Exhibit 186 for identification, I obtained a book from the B. U. G. Company, the name of which is Fixed Capital Withdrawn From Service, and turning to the sub-division marked Meters, I obtained the meters retired in that particular month or year, and subdivided them into columns as to the date of installation. I put each meter installed in a particular year and withdrawn in a particular year and installed in a particular year under the same column, and after going through one year or two years, I added up all [fol. 2231] the meters retired in a particular year, which were installed in the same year. After obtaining those—having the meters segregated into the years installed and years retired, I tabulated them; I gave the age for each meter; that is, the meter which was installed in 1922 and 1923, I gave as the years in service, one year. Under the number of meters I put the total number of meters which belonged under that classification, and called it "Number of meters, three," and then multiplying the years' service and the number of meters for that particular class, I got a product of meter years or months, and going down the column for meters installed in 1921 and retired in 1923, two years; and multiplying down the meters and the years, I got the next line. Then adding up all these years of service and the number of years and the product of meters and years, I got a total of meter years and the number of meters; then dividing the total of meter years by the number of meters, I obtained an average age of meters at retirement, which is given here on the first sheet as 22.87 years. Then after adding these for 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922 and 1923, I summarized all these sheets on the first sheet. I followed that same procedure in preparing each of those sheets, for each year. I prepared the summary sheet from these individual sheets, [fol. 2232] just putting down the answers as to the number of meters. I practically did everything myself. Mr. Miller assisted me occasionally in checking some of the meters retired from the company's books. I correctly wrote down what he called off to me.

[fol. 2233] GEORGE C. MILLAR

Direct:

I have been assistant engineer with the Electrical Bureau of the Public Service Commission for several years; I don't recall the exact time. And, previous to that, I was junior railway engineer with the Commission, or its predecessors, since about 1908, under that title for a number of years previous to that; and in fact, have been with the the Commission during various work. I have been engaged in appraisals of the Utility properties that we have had jurisdiction over, and at times checked capital expenditures for rate and capitalization purposes. In the preparation of the statements in Defendants' Exhibit No. 186 for identification, I merely assisted Mr. Wagner, to whom I had assigned the work, in calling off from the Company's Capital Withdrawn From Service Ledger, the items as they appeared; I did only that part of the work. I called off from this ledger the sum of the periods of installation and withdrawal of meters for each of the years from 1913 to 1923, inclusive; I am not sure about each year. I correctly called off to Mr. Wagner the date of installation and the date of withdrawal. I didn't call them all off because there was other work to do; I have charge of men there doing various lines of work and had charge at that same time. Mr. Wagner read these figures off himself. I merely facilitated getting the answers out. I did not call off. He did himself.

[fol. 2234] GEORGE WAGNER

Direct:

As to checking the figures which I have placed on Defendants' Exhibit No. 186 for identification, the Company has the totals of meters retired for each month, at the end of each month, and adding those months together, that is, the 12 months, obtained the total withdrawn from service according to the Company's books, and compared it with the total number of meters I obtained for each year that is, the long way, and I found that I was out a few meters in some of the years. I was shy; I had missed on the meters.

The total meters I missed is 128 out of 56,000 meters; which is only about one-third of one per cent of all the total meters which the Company has listed, and assuming that those meters I missed would be of an age which would benefit the company as the oldest meters, which is 63 years, I found that the results would not have been changed by more than .08, or about one month, which is also about one-third of one per cent of the result which I obtained. The number of meters as checked by me is 56870. According to the Company's books there were 56998, or a difference of 128. In my examination to find the average age of meters retired during this period, the maximum age I found any meter had during that period was 63 years. I gave those 128 meters [fol. 2235] the same year value of 63 years. I gave them the benefit of the maximum year possible.

Mr. Deegan: I will offer in evidence Defendant's Exhibit 186 for identification.

WAGNER

Cross:

This scheme was laid out by Mr. Millar, as my superior, and followed by me. I just got instructions to get the average of meters retired by the Brooklyn Union Gas Company, and in going over there alone the first morning, I started to work, and laid it out the way we finished it practically. The method of presentation is mine as far as the work is concerned. It was my idea to get these data together in this form. We might be able to do it another way, but I just hit on this method of doing it. I am the author of this scheme of presentation. I did not know when dry meters as distinguished from wet meters, first came into use. There wasn't anything on the books which I examined, which disclosed when dry meters came into use as a substitute for wet meters. I made no study of gas meters.

[fol. 2236] I stated in my direct examination that in the checking process I went through, I found that my figures did not agree with the figures shown as totals on the company books. I testified to an assumption that I had made as to what the result of that disagreement might be. In the checking process which I have described, I discovered

a difference between the figures shown on this Defendants' Exhibit No. 186 for identification and the books of the company. The difference was so small that I did not go back through my figures to discover the reason for that difference. I calculated what the effect of that difference would be, as a matter of mathematics, and that I did without any study of gas meters or knowledge of when dry meters came into use as distinguished from wet meters. I made no investigations as to the reasons for the withdrawal from service of any of these meters set out on Defendants' Exhibit No. 186 for identification. I don't know that there were any meters. Defendants' Exhibit No. 186 for identification is simply presented by me as a transcript showing the meters withdrawn, without any disclosure of the reasons for the withdrawal or the condition of the meter at the time it was withdrawn.

[fol. 2237] WAGNER

Redirect:

In my investigation of the books of the company, I did not know whether the company had a book which showed the causes of the withdrawals of meters.

WAGNER

Recross:

I had to look at two books, which disclosed the same information. They are two books by the same name and simply cover different periods.

[fol. 2238] GEORGE C. MILLAR

Cross:

I have been here listening to Mr. Wagner's cross examination, but I don't know that I followed him so closely that I would want to make the same answers if I should be asked the same questions, in so far as my connection with this exhibit is concerned. I was not interested to that extent, to anticipate this. I did not do any more with reference to this Defendants' Exhibit No. 186 for identification than call off figures from a book to Mr. Wagner to aid him, except as I testified that I assigned the work to him in the first place.

The Master: The exhibit may be marked under those conditions.

(Defendants' Exhibit 186 for identification was thereupon received in evidence.)

OFFERS IN EVIDENCE

Mr. Cummings: I offer in evidence, if the Court please, the Public Service Commission reports made by the complainant to that Commission for the years 1914, 1915, 1916, 1917, 1918, 1919, 1920 and 1921, limiting the offer to that portion of the report which recites the Fixed Capital, Net Additions and Withdrawals.

The Master: Admitted and they are deemed in evidence.

Mr. Cummings: I then offer in evidence pursuant to a stipulation, I think, the assessed values of the land unimproved, and the land improved; that is, both the land and [fol. 2239] the improvements for the year 1923, and these figures will be supplied for the record after Mr. Dykman and I agree upon them.

The Master: Any objection.

Mr. Dykman: Not as Mr. Cummings makes the stipulation. My understanding is that we are going to agree upon what the assessment for the year 1923 was.

Mr. Cummings: Yes, that is it.

Mr. J. A. Dykman: That is the assessment made as of October, 1922.

The Master: Those figures, when compiled will be deemed in evidence.

Mr. J. A. Dykman: I do not conceive the relevancy *of* materiality of an assessment made in October, 1922, in this case, and to protect myself in that respect I object to the receipt of those pages in evidence as immaterial and irrelevant.

Mr. Cummings: Yes.

Mr. J. A. Dykman: In other words, I am frankly willing to agree what they are, and I do not object to this method of proving them upon any ground of competency.

The Master: Objection overruled.

Mr. J. A. Dykman: Exception.

(Marked Defendants' Exhibit 187.)

Mr. Cummings: I offer in evidence a tabulation or questionnaire, marked in this case as defendants' exhibit 149 for identification, the title of it being "Information de-

sired of The Brooklyn Union Gas Company for the 12 months ending October 21, 1905"; on the side of it is marked "B. U. Ex. 27." Well, I presume that is the reason I am [fol. 2240] offering the exhibit, on account of Question 7. (Examining paper.) That is one of the main reasons I am offering the exhibit.

Objection by plaintiff sustained, exception to defendants; defendants rest.

Mr. J. A. Dykman: In view of the withdrawal of defendants' exhibits 166, 168 and 169 prepared by and introduced during the testimony of Mr. Benjamin Cohen, it is further stipulated that the testimony relating to these exhibits will also be stricken from the record, counsel for the plaintiff to submit to counsel for the defendant Attorney General a list of the pages identifying the testimony thus stricken out, and, in case of any disagreement between counsel the matter to be submitted to the Master for decision.

[fol. 2241]

List of Exhibits

[fol. 2242]

Exh. No. in B. U. G. Co. vs. Prendergast	Description	Page of stenographer's minutes: Identification	Page of stenographer's minutes: In evidence
1.	Certified copy of Certificate of Incorporation of The Brooklyn Union Gas Company, filed in the office of the Secretary of State, September 9th, 1895	..	10
2.	Minutes of Meeting of Board of Directors of The Brooklyn Union Gas Company, held September 10th, 1895, approving execution of the mortgage to the New York Guaranty & Indemnity Company for $15,000,000	23	324
	Resolutions of the Board of Directors of the Brooklyn Union Gas Co. as follows:		
3.	Meeting held September 30th, 1895, appointing Committee to investigate the acquisition of other companies	23	324
4.	Meeting held October 2nd, 1895, requesting other companies to appoint Committee of Conference	24	324
5.	Meeting held October 19th, 1895, approving form of contracts with the seven vendor companies	25	324
6.	Meeting held November 1, 1895, approving form of Company's First Consolidated Mortgage and authorizing trustee to distribute bonds and stock in accordance with agreements with vendor companies	26	324
	Agreements for the sale of the properties of the following companies:		

Exh. No. in B. U. G. Co. vs. Prendergast	Description	Page of stenographer's minutes: Identification	Page of stenographer's minutes: In evidence
7.	The Brooklyn Gas Light Company, Oct. 16th, 1895	26	34
8.	The Citizens Gas Company, Oct. 16th, 1895	..	36
9.	The Fulton Municipal Gas Company, Oct. 17th, 1895	..	38
10.	The Metropolitan Gas Light Company, Oct. 16th, 1895	..	40
11.	The Nassau Gas Light Company, Oct. 18, 1895	..	43
12.	" " " " " (Supplemental Agreement), Nov. 4th, 1895	..	49
13.	The Peoples Gas Light Company, Oct. 15th, 1895	..	52
14.	The Williamsburgh Gas Light Company, Oct. 16th, 1895	..	50
[fol. 2243]	Deeds to the Brooklyn Union Gas Company conveying the property, rights and franchises of the following companies:		
15.	The Brooklyn Gas Light Company, dated Nov. 4th, 1895	..	31
16.	The Citizens Gas Company, dated Nov. 4th, 1895	..	36
17.	The Fulton Municipal Gas Company, dated Nov. 4th, 1895	..	37
18.	Alvan R. Johnson & Wife, dated Dec. 17th, 1891	..	39
19.	The Metropolitan Gas Light Company, dated Nov. 4th, 1895	..	39
20.	The Nassau Gas Light Company, dated Nov. 4th, 1895	..	43
21.	The Williamsburgh Gas Light Company, dated Nov. 4th, 1895	..	49
22.	The Peoples Gas Light Company, dated Nov. 4th, 1895	..	51
23.	Copy of Chapter 204, Laws of 1825, passed April 18, 1825, incorporating The Brooklyn Gas Light Company	..	52
24.	Copy of Chapter 58, Laws of 1850, passed March 12, 1850, ratifying elections and proceedings of The Brooklyn Gas Light Company since 1847	..	53
25.	Certified copy of Certificate of Incorporation of the Equity Gas Light Company of the Eastern District of the City of Brooklyn, filed in the office of the Secretary of State, January 31, 1874	..	54
26.	Certified copy of Certificate of Incorporation of the Equity Gas Company, filed in the office of the Secretary of State, May 29, 1896	..	54
27.	Certified copy of Certificate of Incorporation of The Nassau Gas Light Company filed in the office of the Secretary of State, July 2nd, 1869	..	54

Exh. No. in B. U. G. Co. vs. Prendergast	Description	Page of stenographer's minutes: Identification	Page of stenographer's minutes: In evidence
28.	Certified copy of Articles of Association of The Peoples Gas Light Company, filed in the office of the Secretary of State, November 17th, 1864	..	55
29.	Certified copy of Amended Certificate of Incorporation of The Peoples Gas Light Company filed in the office of the Secretary of State, February 23rd, 1871	..	55
[fol. 2244]			
30.	Certificate of Incorporation of The Metropolitan Gas Light Company of Brooklyn, filed in the office of the Secretary of State, February 20th, 1871	..	55
31.	Certified copy of Amended Certificate of Incorporation of The Metropolitan Gas Light Company of Brooklyn, filed in the office of the Secretary of State, February 23, 1871	..	55
32.	Certified copy of Certificate of Incorporation of The Fulton Municipal Gas Company of the City of Brooklyn, filed in the office of the Secretary of State, March 5th, 1879	..	56
33.	Certified copy of Certificate of Incorporation of The Williamsburgh Gas Light Company, filed in the office of the Secretary of State, July 5th, 1850	..	56
34.	Certified copy of Certificate of Incorporation of The Citizens Gas Light Company of Brooklyn, filed in the office of the Secretary of State, October 26th, 1858	..	56
35.	Certified copy of Articles of Incorporation of the Union Gas Light Company, filed in the office of the Secretary of State, June 26th, 1861	..	56
36.	Certified copy of Certificate of Incorporation of The Mutual Gas Light Company of the City of Brooklyn, filed in the office of the Secretary of State, December 9th, 1875	..	57
37.	Certified copy of Certificate of Incorporation of the Green Point Gas Light Company filed in the office of the Secretary of State, November 29th, 1853	..	57
38.	Certified copy of agreement of consolidation of the Citizens Gas Light Company of Brooklyn with the Union Gas Light Company forming the Citizens Gas Company of Brooklyn, filed in the office of the Secretary of State, April 1st, 1892	..	58
39.	Extract from Minutes of Common Council of the City of Brooklyn meeting held June 7th, 1897, directing the Brooklyn Union Gas Company to lay gas mains through the section known as Windsor Terrace, 29th Ward. Certified to by Clerk of the City of New York	..	58

Exh. No. in B. U. G. Co. vs. Prendergast	Description	Page of stenographer's minutes: Identification	Page of stenographer's minutes: In evidence
40.	Extract from Minutes of Common Council of the City of Brooklyn meeting held October 18th, 1897, directing the Brooklyn Union Gas Company to lay gas mains and erect lamp posts in certain streets of the 32nd Ward. Certified to by Clerk of the City of New York	..	60
[fol. 2245]			
41.	Extract from Minutes of Common Council of the City of Brooklyn meeting held October 25th, 1897, directing the laying of gas mains and the erecting of lamp posts in certain streets of the 32nd Ward. Certified to by Clerk of the City of New York	..	60
42.	Extracts from Minutes of Common Council of the City of Brooklyn meeting held December 20th, 1897, directing the erection of gas lamp posts in certain streets in the 32nd Ward. Certified to by Clerk of the City of New York	..	60
43.	Certified copy of Extract from Minutes of Common Council of the City of Brooklyn, March 29, 1847, authorizing the Brooklyn Gas Light Company to lay pipe and fixtures in streets of City of Brooklyn	..	60
44.	Extract from Minutes of Common Council of the City of Brooklyn, April 5, 1847, authorizing the Brooklyn Gas Light Company to lay pipe and fixtures in streets of City of Brooklyn	..	61
45.	Copy of contract between the Mayor and the Common Council of the City of Brooklyn and the Brooklyn Gas Light Company, dated April 29th, 1848, certified to by the Clerk of the City of New York	..	63
46.	Copy of contract between the Mayor and the Common Council of the City of Brooklyn and the Brooklyn Gas Light Company, dated April 26th, 1849, certified to by the Clerk of the City of New York	..	63
47.	Copy of contract between the Mayor and the Common Council of the City of Brooklyn and the Brooklyn Gas Light Company, dated Oct. 18th, 1849. Certified to by the Clerk of the City of New York	..	63
48.	Copy of Bond from the Brooklyn Gas Light Company to the Mayor and Common Council of the City of Brooklyn, dated February 11th, 1859. Certified to by the Clerk of the City of New York	..	63
49.	Copy of Resolution of the Common Council of the City of Brooklyn, dated March 28th, 1859, granting permission to the Citizens Gas Light Company to lay mains through the streets, etc., of the City of Brooklyn. Certified to by the Clerk of the City of New York	..	63

Exh. No. in B. U. G. Co. vs. Prendergast	Description	Page of stenographer's minutes: Identification	Page of stenographer's minutes: In evidence
50.	Copy of Resolution of the Common Council of the City of Brooklyn, dated July 12th, 1869, granting permission to the Nassau Gas Light Company to lay mains through the streets of the City of Brooklyn. Certified to by Clerk of the City of New York	..	65
[fol. 2246]			
51.	Copy of Chapter 177, Laws of 1862, passed April 12th, 1862, confirming the acts of the authorities of the Town of New Lots in granting certain rights to the Union Gas Light Co.	..	65
52.	Agreement dated August 11, 1884, between the authorities of the Town of New Lots and the Union Gas Light Company	..	67
53.	Agreement dated June 2nd, 1885, between the authorities of the Town of New Lots and the Union Gas Light Company	..	68
54.	Agreement dated June 16th, 1886, between the authorities of the Town of New Lots and the Union Gas Light Company	..	69
55.	Copy of the resolution of the Common Council of the City of Brooklyn, dated January 17th, 1876, granting permission to the Mutual Gas Light Company to lay mains through the streets, etc., of the City of Brooklyn. Certified to by Clerk of the City of New York	..	70
56.	Copy of resolution of the Common Council of the City of Brooklyn, dated March 13th, 1871, granting permission to the Metropolitan Gas Light Company of the City of Brooklyn to lay mains, etc., through the streets of the City of Brooklyn. Certified to by Clerk of the City of New York	..	70
57.	Copy of resolution of the Common Council of the City of Brooklyn, dated April 11, 1870, granting permission to the Peoples Gas Light Company to lay its mains through the streets of the City of Brooklyn. Certified to by Clerk of the City of New York.....	..	70
58.	Copy of contract between the City of Brooklyn and the Williamsburgh Gas Light Company, dated January 1, 1855. Certified to by Clerk of the City of New York	..	71
59.	Copy of Chapter 144, Laws of 1874, passed April 9th, 1874, granting authority to the Equity Gas Light Company of the Eastern District of the City of Brooklyn, to lay its mains in certain wards of the City of Brooklyn	..	71
60.	Printed copy of First Consolidated Mortgage of The Brooklyn Union Gas Company, dated September 16th, 1895, and recorded in Office of the Register of Kings County, November 5th, 1895, in Liber 3 of Mortgages, Page 165, Sec. 1	..	72

Exh. No. in B. U. G. Co. vs. Prendergast	Description	Page of stenographer's minutes: Identification	Page of stenographer's minutes: In evidence
61.	Printed Copy of First Lien and Refunding Mortgage of The Brooklyn Union Gas Company, dated May 1, 1922, and recorded in Office of Register of Kings County, Liber 5148, Page 130 of Mortgages, June 9, 1922..	..	75
[fol. 2247]			
62.	Tabulation showing distribution and reservations of plaintiff's stocks and bonds under agreements with Vendor Companies	..	76
63.	Certified Copy of Order of the Public Service Commission approving issue of $3,000,000 par value of capital stock, dated July 17th, 1908 (Case No. 640)	..	87
64.	Certified Copy of Order of the Public Service Commission authorizing issuance of $2,000,000 par value of Convertible Debenture Bonds, dated Sept. 9th, 1919 (Case No. 2365)	..	88
65.	Certified Copy of Order of the Public Service Commission authorizing issuance of $2,000,000 of Capital Stock to retire a like amount of debentures upon maturity, dated February 13th, 1920 (Case No. 2443)	..	89
66.	Certified Copy of Order of the Public Service Commission authorizing the issuance of $38,000 of First Consolidated Mortgage Bonds, dated Sept. 21, 1920 (Case No. 2504)	..	90
67.	Certified Copy of Order of the Public Service Commission authorizing issuance of $6,000,000 First Lien and Refunding Mortgage Bonds and $5,579,000 Convertible Debenture Bonds, and a similar amount of Capital Stock to retire said Debenture Bonds upon maturity, dated May 10, 1922 (Case No. 309)	..	91
68.	Certified Copy of Order of the Public Service Commission dated August 30, 1922, effective October 1, 1922, fixing rates (block rate schedule) for gas (Case No. 79)	..	115
69.	Amendatory Order of the Public Service Commission, dated May 18, 1922, in re: issue of Securities (Case No. 309)	..	93
70.	Certified Copy of Certificate of Increase of Capital Stock of The Brooklyn Union Gas Company, filed in the office of the Secretary of State, January 7th, 1904	..	94
71.	Certified Copy of Certificate of Increase of Capital Stock of The Brooklyn Union Gas Company, filed in the office of the Secretary of State, May 31, 1922	..	94
72.	Tariff Sheet of The Brooklyn Union Gas Co. on file with the Public Service Commission, entitled B. U. G. Co. No. 1, Second Revised Sheet No. 3 (Cancelling first revised sheet No. 3) issued by The Brooklyn Union Gas Co. May 14, 1921, effective May 14, 1921, establishing a rate of $1.50 per thousand cubic feet of gas	96	..

[fol. 2248]

Exh. No. in B. U. G. Co. vs. Prendergast	Description	Page of stenographer's minutes: Identification	Page of stenographer's minutes: In evidence
73.	Tariff sheet of The Brooklyn Union Gas Co. on file with the Public Service Commission, entitled B. U. G. Co. No. 1 Third Revised Sheet No. 3 (cancelling Second Revised Sheet No. 3), issued by The Brooklyn Union Gas Co. July 1, 1921, effective Aug. 1, 1921, establishing a rate of $1.25 per thousand cubic feet	96	..
74.	Tariff sheet of The Brooklyn Union Gas Co. on file with the Public Service Commission entitled P. S. C. 21, Original Leaf No. 12, superseding B. U. G. Co. No. 1, issued by The Brooklyn Union Gas Co. Sept. 30, 1922, effective Oct. 1, 1922, establishing block rates with top rate of $1.15 per thousand cubic feet	96	114
75.	Copy of contract between the City of Brooklyn and the Green Point Gas Light Co. dated April 21, 1856. Certified to by Clerk of the City of New York	..	117
76.	Copy of extract from Minutes of Common Council of the City of Brooklyn dated August 19, 1872, granting permission to the Williamsburgh Gas Light Company to lay its mains through the streets of the City of Brooklyn. Certified to by Clerk of the City of New York	..	117
	Resolution of the Common Council of the City of Brooklyn, dated February 8, 1897, directing The Brooklyn Union Gas Company to furnish gas for lighting the streets and public buildings in the City of Brooklyn, for five years beginning January 1, 1987. (No exhibit Number read into the record. Stenographer's Minutes Page 117.)		
77.	Contract between the Mayor and Commissioner of City Works of the City of Brooklyn, and The Brooklyn Union Gas Co. dated March 15, 1897, to furnish gas to public buildings, street lamps, and private consumers, from January 1, 1897 to December 31, 1901	120	122
78.	Tabulation showing stocks and bonds outstanding October 31, 1923	..	124
79.	Acceptance of Order of the Public Service Commission of August 30, 1922, effective October 1, 1922, fixing the rates (block rate schedule) for gas (Case No. 79)	127	128
80.	Certified Copy of Order of the Public Service Commission dated August 30, 1922, in the matter of Standards of Purity, Lighting Power and Heating Power of Gas, and the Standard of Measurements thereof in the City of New York and Suburban Territory	..	130

[fol. 2249]

81.	Acceptance of the Order of the Public Service Commission fixing Standards of Purity, Lighting Power and Heating Power (537 B. T. U. Order) Case No. 108	132	133

Exh. No. in B. U. G. Co. vs. Prendergast	Description	Page of stenographer's minutes: Identification	Page of stenographer's minutes: In evidence
82.	Certified Copy of Proceedings by the Attorney General entitled "In the Matter of the Petition of John C. Lester to Attorney General of the State of New York to institute proceedings against The Brooklyn Union Gas Company and the seven vendor companies.	139	140
83.	Certified Copies of the Judgments of the Supreme Court, Albany County, in the cases of the People of the State of New York against the seven vendor companies, being the judgments dissolving the vendor companies	..	142
84.	Extract from Minutes of the Board of Directors of the Brooklyn Gas Light Company, minutes of meeting held November 13, 1895..	..	150
85.	Extract from Minutes of the Board of Directors of the Citizens Gas Company, minutes of Meeting held November 29, 1895	..	158
86.	Extract from Minutes of the Board of Directors of the Williamsburgh Gas Light Company, minutes of meeting held November 8, 1895	..	161
87.	Extract from Minutes of the Board of Directors of the Fulton Municipal Gas Light Company, minutes of meeting held November 18, 1895	..	165
88.	Extract from Minutes of the Board of Directors of the Peoples Gas Light Company, minutes of meeting held November 19, 1895	..	167
89.	Extract from Minutes of the Board of Directors of the Nassau Gas Light Company, minutes of meeting held November 20, 1895	..	169
90.	Extract from Minutes of the Board of Directors of the Metropolitan Gas Light Company, minutes of meeting held November 11, 1895	..	177
91.	Land Grant to Williamsburgh Gas Light Company, dated March 11, 1892, recorded March 11, 1892, in Register's Office, County of Kings, in Liber 2101, Page 485	..	342
92.	Anna M. Horton, deed dated March 4, 1902, registered March 4, 1902, Liber 15, Page 368, Sec. 1, Block 33	..	343
93.	City Real Estate Co., deed dated March 24, 1904, registered March 24, 1904, Liber 45, Page 330, Sec. 4, Block 1025	..	343
[fol. 2250]			
94.	John P. Carroll, deed dated Oct. 2, 1905, registered June 25, 1907, Liber 3015, Page 309, Sec. 2, Block 471-473-475	..	343
95.	Alexander Doerks and wife, deed dated Feb. 15, 1906, registered Feb. 21, 1906, Liber 43, Page 416, Sec. 12, Block 3751	..	343
96.	Eunice Kirkwood, deed dated Feb. 19, 1906, registered Feb. 20, 1906, Liber 43, Page 403, Sec. 12, Block 3751	..	343
97.	City Real Estate Co., deed dated March 31, 1908, registered April 8, 1908, Liber 3076, Page 178, Sec. 4, Block 1025	..	344

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98.	Charles Essing and wife, deed dated May 21, 1908, registered May 22, 1908, Liber 3074, Page 444, Sec. 4, Block 1025.....	..	344
99.	City Real Estate Co., deed dated May 20, 1908, registered May 22, 1908, Liber 3074, Page 443, Sec. 4, Block 1025	..	344
100.	Michael O'Connor, deed dated Dec. 1, 1910, registered Dec. 2, 1910, Liber 3254, Page 305, Sec. 4, Block 1025	..	344
101.	City Real Estate Co., deed dated Dec. 8, 1910, registered Dec. 13, 1910, Liber 3262, Page 358, Sec. 4, Block 1025	..	345
102.	Richard S. Hager and wife, deed dated Feb. 16, 1911, registered June 20, 1911, Liber 3008, Page 2, Sec. 4, Block 1007-A.....	..	345
103.	Richard S. Hager and wife, deed dated June 19, 1909, registered May 20, 1910, Liber 3226, Page 280, Sec. 8, Block 2288	..	345
104.	Richard S. Hager and wife, deed dated June 19, 1909, registered May 20, 1910, Liber 3226, Page 268, Sec. 8, Block 2288	..	345
105.	Richard S. Hager and wife, deed dated Aug. 8, 1910, registered Aug. 9, 1910, Liber 3239, Page 306, Sec. 8, Block 2288	..	346
106.	Richard S. Hager and wife, deed dated June 2, 1909, registered May 20, 1910, Liber 3226, Page 279, Sec. 8, Block 2288	..	346
107.	Richard S. Hager and wife, deed dated May 12, 1910, registered May 20, 1910, Liber 3226, Page 278, Sec. 8, Block 2288	..	346
108.	William Wharton, deed dated March 31, 1911, registered April 3, 1911, Liber 3291, Page 1, Sec. 4, Block 999	..	346
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109.	City Real Estate Co., deed dated June 9, 1911, registered July 19, 1911, Liber 3308, Page 339, Sec. 4, Block 1025	..	346
110.	American Agricultural Chemical Co., deed dated Dec. 19, 1911, registered Dec. 22, 1911, Liber 3334, Page 88, Sec. 2, Block 471-A-475	..	347
111.	William B. Greenman and others, deed dated Dec. 29, 1911, registered Jan. 11, 1912, Liber 3345, Page 93, Sec. 7, Block 2015	..	347
112.	Realty Associates, deed dated Feb. 14, 1912, registered Feb. 14, 1912, Liber 3339, Page 471, Sec. 1, Block 255	..	347
113.	Josephine F. Paul, deed dated March 26, 1912, registered April 2, 1912, Liber 3357, Page 90, Sec. 1, Block 255	..	347
114.	City Real Estate Co., deed dated March 16, 1914, registered May 25, 1914, Liber 3484, Page 348, Sec. 4, Block 1025	..	348
115.	Elizabeth Gorman, deed dated March 23, 1914, registered May 25, 1914, Liber 3484, Page 547, Sec. 4, Block 1025	..	348
116.	Chauncey Real Estate Co., deed dated Jan. 19, 1915, registered April 11, 1917, Liber 3664, Page 6, Sec. 2, Block 426	..	348

Exh. No. in B. U. G. Co. vs. Prendergast	Description	Page of stenographer's minutes: Identification	Page of stenographer's minutes: In evidence
117.	Benjamin P. Alexander, Referee, deed dated March 28, 1916, registered March 30, 1916, Liber 3593, Page 642, Sec. 7, Block 2015....	..	348
118.	Richard S. Hager and wife, deed dated Aug. 9, 1916, registered April 6, 1917, Liber 3662, Page 29, Sec. 2, Block 419	..	348
119.	Richard S. Hager and wife, deed dated Aug. 31, 1916, registered April 6, 1917, Liber 3662, Page 28, Sec. 2, Block 419	..	349
120.	Richard S. Hager and wife, deed dated Oct. 3, 1916, registered April 6, 1917, Liber 3662, Page 33, Sec. 2, Block 419	..	349
121.	Richard S. Hager and wife, deed dated Oct. 6, 1916, registered April 6, 1917, Liber 3662, Page 32, Sec. 2, Block 419	..	349
122.	Richard S. Hager and wife, deed dated Oct. 6, 1916, registered April 6, 1917, Liber 3662, Page 31, Sec. 2, Block 419	..	349
123.	Richard S. Hager and wife, deed dated Oct. 24, 1916, registered April 6, 1917, Liber 3662, Page 30, Sec. 2, Block 419	..	350
124.	Henry P. Chilton to Equity Gas Co., deed dated May 22, 1896, registered July 1, 1896, Liber 3, Page 333, Sec. 10, Block 2888-2898-2927	..	350
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125.	City of New York, deed dated Feb. 7, 1919, registered April 16, 1919, Liber 3774, Page 550, Sec. 2, Block 469-A	..	350
126.	Deed to City of New York, dated Jan. 17, 1918	..	350
127.	Richard S. Hager and wife, deed dated December 29, 1921, registered July 27, 1922, Liber 4171, Page 360, Sec. 2, Block 468-A ..	..	350
128.	United States of America, deed dated April 7, 1921, registered Oct. 31, 1921, Liber 4088, Page 59, Sec. 8, Block 2287	..	351
129.	Richard S. Hager and wife, deed dated May 15, 1922, registered May 25, 1922, Liber 4145, Page 589, Sec. 2, Block 469-A	..	351
130.	Richard S. Hager and wife, deed dated Sept. 30, 1916, registered July 26, 1922, Liber 4166, Page 256, Sec. 2, Block 468-A	..	351
131.	Richard S. Hager and wife, deed dated Dec. 31, 1921, registered July 27, 1922, Liber 4171, Page 359, Sec. 2, Block 468-A	..	351
132.	Richard S. Hager and wife, deed dated Jan. 28, 1922, registered July 27, 1922, Liber 4171, Page 365, Sec. 2, Block 468-A	..	351
133.	Richard S. Hager and wife, deed dated Jan. 30, 1922, registered July 27, 1922, Liber 4171, Page 361, Sec. 2, Block 468-A	..	352
134.	Richard S. Hager and wife, deed dated Feb. 28, 1922, registered July 27, 1922, Liber 4171, Page 356, Sec. 2, Block 468-A	..	352

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135.	Richard S. Hager and wife, deed dated March 1, 1922, registered July 27, 1922, Liber 4171, Page 357, Sec. 2, Block 468-A	..	352
136.	Richard S. Hager and wife, deed dated March 16, 1922, registered July 27, 1922, Liber 4171, Page 364, Sec. 2, Block 468-A	..	352
137.	Richard S. Hager and wife, deed dated March 31, 1922, registered July 27, 1922, Liber 4171, Page 363, Sec. 2, Block 468-A	..	353
138.	Richard S. Hager and wife, deed dated April 5, 1922, registered July 27, 1922, Liber 4171, Page 358, Sec. 2, Block 468-A	..	353
139.	Richard S. Hager and wife, deed dated April 10, 1922, registered July 27, 1922, Liber 4171, Page 362, Sec. 2, Block 468-A	..	353
140.	Joseph W. Catherine and wife, deed dated June 10, 1922, registered July 27, 1922, Liber 4171, Page 365, Sec. 2, Block 468-A	..	353
141.	Richard S. Hager and wife, deed dated June 29, 1922, registered July 27, 1922, Liber 4171, Page 357, Sec. 2, Block 468-A	..	353
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142.	Richard S. Hager and wife, deed dated July 24, 1922, registered July 27, 1922, Liber 4171, Page 361, Sec. 2, Block 468-A	..	354
143.	The Brooklyn Improvement Co., deed dated Oct. 15, 1923, registered Oct. 15, 1923, Liber 4319, Page 176, Sec. 4, Block 977-A	..	354
144.	Richard S. Hager and wife, deed dated June 7, 1923, registered June 9, 1923, Liber 4277, Page 31, Sec. 4, Block 999	..	354
145.	Book of Maps numbered 1 to 26, showing properties of The Brooklyn Union Gas Company, as surveyed by Messrs. Meserole & Ludlam	357	408
146.	22 Maps of Buildings and major pieces of apparatus, etc.	973	1142
147.	Lease dated Jan. 6, 1899, between the Jamaica Gas Light Co. and The Brooklyn Union Gas Co.	1024	1027
148.	Report of the Public Service Commission in the Matter of Purity, etc.	1057	....
149.	Gas Supply Inspection Tickets	1602	1624
150.	Book entitled "Street Mains—No. 1 A"	1648	1694
151.	Book entitled "Street Mains—No. 2 A"	1648	1694
152.	Book entitled "Street Mains—No. 3 A"	1648	1694
153.	Book entitled "Street Mains—No. 4 A"	1648	1694
154.	Book entitled "Street Mains—No. 5 A"	1648	1694
155.	Book entitled "Street Mains—1896-1899"	1648	1694
156.	Book entitled "Street Mains—1899-1901"	1648	1694
157.	Book entitled "Street Mains—Book 3"	1648	1694
158.	Book entitled "Street Mains—Book 4"	1648	1694
159.	Book entitled "Street Mains—Book 5"	1648	1694
160.	Book entitled "Street Mains—1906-1908"	1648	1694
161.	Book entitled "Record of Mains Laid—No. 2"	1648	1694
162.	Book entitled "Street Mains—1908-1909"	1648	1694
163.	Book entitled "Street Mains—Book 8"	1648	1694

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164.	Quantity and Reproduction Cost of Mains in Use as of June 1, 1923—The B. U. G. Co. ..	1663	1713
165.	Quantity and Reproduction Cost of Services in Use as of June 1, 1923—The B. U. G. Co.	1675	1713
166.	Meters owned as of June 1, 1923—The B. U. G. Co.	1688	....
167.	Total Services in Use and Services replaced with percentage relation 1912-1923	1740	1745
168.	Piece of 4" pipe laid in Stagg St. in 1858....	1756	1784
169.	Atlas of Mains—The Brooklyn Union Gas Co.	1876	1859
170.	Card Index of Mains	1890	1890
171 A & B.	Inventory and Appraisal of Buildings	2994	3024
172.	Estimate of Repairs necessary for Structures as of June 1, 1923	2996	3024
173.	Supplemental Bill from U. S. Cast Iron Pipe & Foundry Co., dated July 28, 1923 for freight (Def. Exh. 13)	2856	2856
174.	Supplemental Bill from U. S. Cast Iron Pipe & Foundry Co., dated November 5, 1923 for freight (Def. Exh. 14)	2856	2856
175.	Letter to The Texas Co., dated May 13, 1921	3261	3286
176.	Letter to The Texas Co., dated March 12, 1921	3262	3286
177.	Letter from The Texas Co., dated May 14, 1921	3263	3286
178.	Letter from The Texas Co., dated May 21, 1921	3263	3286
179.	Letter from The Pure Oil Co., dated May 16, 1921	3263	3286
180.	Letter from The Pure Oil Co., dated May 19, 1921	3263	3286
181.	Letter from Atlantic Gulf Oil Corp., dated May 16, 1921	3264	3286
182.	Letter from Tide Water Oil Co., dated May 19, 1921	3264	3286
183.	Letter from Sun Company, dated May 17, 1921	3265	3286
184.	Letter from Gulf Refining Co., dated May 19, 1921	3265	3286
185.	Letter from Gulf Refining Co., dated May 21, 1921	3265	3286
186.	Letter from Sinclair Refining Co., dated May 20, 1921	3266	3286
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187.	Letter from T. J. Williams, 26 Broadway, dated May 16, 1921	3266	3286
188.	Letter from The Atlantic Refining Co., dated May 21, 1921	3266	3286
189.	Contract No. 1894, being Agreement dated May 25th, 1921, between the Standard Oil Co. of New York and The Brooklyn Union Gas Co.	3267	3286
190.	Letter to Mr. R. W. Bush from Mr. E. C. Uhlig, dated May 25, 1921	3268	3286
191.	Letter to Mr. J. H. Jourdan from Mr. R. W. Bush, dated May 25, 1921	3270	3286
192.	Letter to The Gulf Refining Co., dated April 4, 1922	3272	3286
193.	Letter from The Gulf Refining Co., dated April 11, 1922	3273	3286
194.	Letter from The Texas Co., dated April 5, 1922	3273	3286

Exh. No. in B. U. G. Co. vs. Prendergast	Description	Page of stenographer's minutes: Identification	Page of stenographer's minutes: In evidence
195.	Letter from The Texas Co., dated April 14, 1922	3273	3286
196.	Letter from The Atlantic Refining Co., dated April 11, 1922	3273	3286
197.	Letter from The Atlantic Refining Co., dated April 13, 1922	3273	3286
198.	Letter from the Standard Oil Co. of N. J., dated April 7, 1922	3273	3286
199.	Letter from the Tide Water Oil Co., dated April 17, 1922	3273	3286
200.	Letter from Union Petroleum Co., dated April 6, 1922	3273	3286
201.	Contract No. 1984, being Agreement dated May 1, 1922, between the Standard Oil Co. of New York and The Brooklyn Union Gas Company	3274	3286
202.	Letter from the Standard Oil Co. of N. Y., dated Jan. 26, 1923	3275	3286
203.	Letter to the Standard Oil Co. of N. Y., dated Jan. 26, 1923	3275	3286
204.	Letter to The Gulf Refining Co., dated October 11, 1923	3277	3286
205.	Letter from The Gulf Refining Co., dated October 20, 1923	3277	3286
206.	Letter from the Standard Oil Co. of N. Y., dated Oct. 15, 1923	3277	3286
207.	Letter from the Standard Oil Co. of N. Y., dated Oct. 22, 1923	3277	3286
208.	Letter from the Standard Oil Co. of N. J., dated Oct. 19, 1923	3277	3286
209.	Letter from the Sinclair Refining Co., dated Oct. 17, 1923	3277	3286
210.	Letter from the Sun Oil Co., dated October 13, 1923	3278	3286
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211.	Letter from The Atlantic Refining Co., dated Oct. 30, 1923	3277	3286
212.	Letter from Tide Water Oil Co., dated Oct. 16, 1923	3277	3286
213.	Letter from Atlantic Gulf Oil Corp., dated Oct. 17, 1923	3277	3286
214.	Letter from The Texas Company, dated Oct. 19, 1923	3278	3286
215.	Contract No. 2260 being Agreement dated Oct. 25, 1923, between the Standard Oil Co. of N. Y. and The Brooklyn Union Gas Company	3279	3286
216.	Letter to the Lehigh & Wilkes-Barre Coal Co. from Mr. R. W. Bush, dated February 1, 1921	3308	3343
217.	Letter to the Lehigh & Wilkes-Barre Coal Co. from Mr. H. E. McGowan, dated April 8, 1921 (Re: Broken Coal Contract No. 1868), and Letter from the Lehigh & Wilkes-Barre Coal Co. to Mr. R. W. Bush (in reply to letter of Feb. 1, 1921), dated March 17, 1921	3308	3343

Exh. No. in B. U. G. Co. vs. Prendergast	Description	Page of stenographer's minutes: Identification	Page of stenographer's minutes: In evidence
218.	Letter from Williams & Peters to Mr. R. W. Bush, dated March 10, 1921, and Letter to Williams & Peters from Mr. H. E. McGowan, dated April 8, 1921 (Re: Broken Coal Contract No. 1869), and Letter to Williams & Peters from Mr. H. E. McGowan, dated April 30, 1921 (Re: Contract No. 1869-A)	3308	3343
219.	Letter from the Lehigh Valley Coal Sales Co. to Mr. R. W. Bush, dated March 25, 1921, and Letter to the Lehigh Valley Coal Sales Co. from Mr. H. E. McGowan, dated April 8, 1921 (Re: Contract No. 1870)	3308	3343
220.	Letter from the Stokes Coal Co. Inc., to Mr. R. W. Bush, dated March 22, 1921, and Letter to the Stokes Coal Co. from Mr. H. E. McGowan, dated April 8, 1921. (Contract No. 1871)	3309	3343
221.	Letter from The Philadelphia & Reading Coal and Iron Co. to Mr. R. W. Bush, dated March 31, 1921, and Letter to The Philadelphia & Reading Coal and Iron Co. from Mr. H. E. McGowan, dated April 8, 1921. (Con. No. 1872)	3309	3343
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222.	Letter from Madeira, Hill & Co. to Mr. R. W. Bush, dated March 24, 1921, and Letter to Madeira, Hill & Co. from Mr. H. E. McGowan, dated April 8, 1921 (Contract No. 1873)	3309	3343
223.	Letter from Dickson & Eddy to Mr. R. W. Bush, dated March 10, 1921, and Letter to Dickson & Eddy from Mr. H. E. McGowan, dated April 8, 1921 (Re: Contract No. 1874)	3310	3343
224.	Statement entitled "The Brooklyn Union Gas Company—Coal Received on Contracts During the Periods of April 1st, 1921 to March 31, 1922—April 1, 1922 to March 31, 1923—April 1, 1923 to January 31, 1924	3312	3343
225.	Letter from the Seaboard By-Product Coke Co. to The Brooklyn Union Gas Co., dated December 3, 1921, and Letter to the Seaboard By-Product Coke Co. from Mr. H. E. McGowan, dated December 21, 1921 (Re: Contract No. 1944)	3315	3343
226.	Letter from Madeira, Hill & Co. to Mr. R. W. Bush, dated May 3, 1921, and Letter to the Madeira, Hill & Co. from Mr. H. E. McGowan, dated May 23, 1921 (Re: Contract No. 1889)	3318	3343
227.	Letter from Stokes Coal Co. Inc., to Mr. R. W. Bush, dated April 1, 1921, and Letter to Stokes Coal Co. Inc., from Mr. H. E. McGowan, dated June 9, 1921 (Re: Contract No. 1897)	3318	3343
228.	Letter from the Empire Coal Mining Co. to Mr. R. W. Bush, dated April 11, 1921, and Letter to the Empire Coal Mining Co. from Mr. H. E. McGowan, dated May 23, 1921 (Re: Contract No. 1890)	3318	3343

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Exh. No. in B. U. G. Co. vs. Prendergast	Description	Page of stenographer's minutes: Identification	Page of stenographer's minutes: In evidence
229.	Contract between The Archibald McNeil & Sons, Inc., and The Brooklyn Union Gas Co., dated May 23, 1921 (Contract No. 30)	3319	3343
230.	Contract between the Empire Coal Mining Co. of Philadelphia, Pa., and The Brooklyn Union Gas Co., dated March 16, 1922. Letter to the Empire Coal Mining Co. from Mr. H. E. McGowan, dated June 23, 1922 (Re: Contract No. 2004)	3323	3343
231.	Contract between Pilling & Co., Inc., and The Brooklyn Union Gas Co., dated January 18, 1923, and Letter to Pilling & Co. from Mr. H. E. McGowan, dated January 22, 1923 (Re: Contract 2108)	3324	3343
232.	Letter from the Seaboard By-Product Co. to Mr. R. W. Bush, dated June 21, 1922, and Letter to the Seaboard By-Product Coke Co. from Mr. H. E. McGowan, dated June 22, 1922 (Re: Contract No. 2002)	3325	3343
233.	Letter from the Seaboard By-Product Coke Co. to The Brooklyn Union Gas Company, dated April 1, 1922, and Letter to the Seaboard By-Product Coke Co. from Mr. H. E. McGowan, dated April 6, 1922 (Re: Contract No. 1977)	3325	3343
234.	Contract between Pilling & Co., Inc., and The Brooklyn Union Gas Company, dated January 12, 1923, and Letter to Mr. R. W. Bush from Mr. H. E. McGowan, dated January 12, 1923 (Letter of Authority No. 2103)	3325	3343
235.	Contract between Pilling & Co., Inc., and The Brooklyn Union Gas Co., dated January 6, 1923, and Letter to Pilling & Co., Inc., from Mr. H. E. McGowan, dated January 12, 1923 (Contract No. 2103-A)	3325	3343
236.	Letter from Madeira, Hill & Co. to Mr. R. W. Bush, dated January 17, 1923, and Letter to Madeira, Hill & Co. from Mr. H. E. McGowan, dated January 22, 1923 (Contract No. 2109)	3326	3343
237.	Letter from Stokes Coal Co., Inc., to The Brooklyn Union Gas Company, dated March 29, 1923, and Letter to Stokes Coal Co., Inc., from Mr. H. E. McGowan, dated June 27, 1923 (Re: Contract No. 2209), and Letter from Stokes Coal Co., Inc., to The Brooklyn Union Gas Company, dated September 28, 1923, and Letter to Stokes Coal Co., Inc., from Mr. H. E. McGowan, dated October 3, 1923 (Re: Contract No. 2209-A)	3328	3343
238.	Agreement between St. George Coal Co. and The Brooklyn Union Gas Company, dated April 26, 1923, and Letter to St. George Coal Co. from Mr. H. E. McGowan, dated May 3, 1923 (Re: Contract No. 2165), and Letter from St. George Coal Co. to The Brooklyn Union Gas Company, dated Sep-		

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Exh. No. in B. U. G. Co. vs. Prendergast	Description	Page of stenographer's minutes: Identification	Page of stenographer's minutes: In evidence
	tember 26, 1923, and Letter to St. George Coal Co. from Mr. H. E. McGowan, dated October 3, 1923 (Re: Contract No. 2165-A) ..	3329	3343
239.	Letter from the Lehigh Valley Coal Sales Co. to Mr. R. W. Bush, dated April 13, 1923, and Letter to the Lehigh Valley Coal Sales Co. from Mr. H. E. McGowan, dated April 20, 1923 (Re: Contract No. 2154), and Letter from the Lehigh Valley Coal Sales Co. to Mr. R. W. Bush, dated Oct. 3, 1923, and Letter to the Lehigh Valley Coal Sales Co. from Mr. F. R. Wogan, dated Oct. 8, 1923 (Re: Contract No. 2154-A)	3329	3343
240.	Letter from the Lehigh and Wilkes-Barre Coal Co. to Mr. R. W. Bush, dated April 2, 1923, and Letter to the Lehigh and Wilkes-Barre Co. from Mr. H. E. McGowan, dated April 6, 1923 (Re: Contract No. 2150), and Letter from the Lehigh and Wilkes-Barre Coal Co. to Mr. R. W. Bush, dated Sept. 21, 1923, and Letter to the Lehigh and Wilkes-Barre Coal Co. from Mr. H. E. McGowan, dated Oct. 3, 1923 (Re: Contract No. 2150-A)	3330	3343
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241.	Agreement between Williams & Peters and The Brooklyn Union Gas Company, dated March 27, 1923, and Letter to Williams & Peters from Mr. H. E. McGowan, dated March 29, 1923 (Re: Contract No. 2066), and Letter from Pattison & Bowns to The Brooklyn Union Gas Co., dated Sept. 24, 1923, and Letter to Pattison & Bowns from Mr. H. E. McGowan, dated October 3, 1923 (Re: Contract No. 2066-A)	3330	3343
242.	Contract between the Empire Coal Mining Co. of Philadelphia, Pa. and The Brooklyn Union Gas Co., dated April 1, 1923, and Letter to the Empire Coal Mining Co. from Mr. H. E. McGowan, dated June 14, 1923 (Re: Contract No. 2181)	3332	3343
243.	Agreement between the Seaboard By-Product Coke Co. and The Brooklyn Union Gas Company, dated March 29, 1923, and Letter to the Seaboard By-Product Coke Co. from Mr. H. E. McGowan, dated April 12, 1923 (Re: Contract No. 2156)	3333	3343
244.	Uniform System of Accounts for Gas Corporations prescribed by the Public Service Commission, Case No. 578	....	4029
245.	Certified Copy of the Order of the Public Service Commission Case No. 746 "In the Matter of establishing a Uniform System of Accounts for Gas Companies"	....	4033
246.	Ledger #1—The Brooklyn Union Gas Co. Capital Accounts 1895 to 1901	4041	4169
247.	Ledger #2—The Brooklyn Union Gas Co. Capital Accounts 1902 to 1908	4041	4251
248.	Ledger #3—The Brooklyn Union Gas Co. Capital Accounts 1909-1910-1911	4041	4251

Exh. No. in B. U. G. Co. vs. Prendergast	Description	Page of stenographer's minutes: Identification	Page of stenographer's minutes: In evidence
249.	Ledger #4—The Brooklyn Union Gas Co. Capital Accounts 1912-1913-1914	4041	4251
250.	Ledger #5—The Brooklyn Union Gas Co. Capital Accounts 1915-1916	4041	4251
251.	Ledger #6—The Brooklyn Union Gas Co. Capital Accounts 1917-1918	4041	4251
[fol. 2261]			
252.	Ledger #7-A—The Brooklyn Union Gas Co. Capital Accounts 1919	4041	4251
253.	Ledger #7-B—The Brooklyn Union Gas Co. Capital Accounts 1920-1921	4041	4251
254.	Ledger #8—The Brooklyn Union Gas Co. Capital Accounts 1922-1923	4041	4251
255.	Schedule showing Balance in Fixed Capital Accounts 1895 to 1923	4054	4252
256.	Ledger #8—The Brooklyn Union Gas Co. Operating Accounts 1922-1923	4054	4253
257.	Schedule (4 sheets)—"The Brooklyn Union Gas Co. Operating Results—Brooklyn Territory—year ended December 31, 1922"	4055	4263
258.	Schedule (4 sheets)—"The Brooklyn Union Gas Co. Operating Results—Brooklyn Territory—year ended December 31, 1923"	4062	4264
259.	Schedule—"The Brooklyn Union Gas Co. Working Capital" 1922-1923	4063	4266
260.	Book entitled "The Brooklyn Union Gas Co. No. 2—Gas Make, Sendout and Sales"	4067	4270
261.	Book entitled "Monthly Sales Sheets, The Brooklyn Union Gas Co. No. 3, 1922-1923"	4068	4272
262.	Book entitled "Monthly Sales Sheets—Subsidiary Companies" 1922-1923	4068	4273
263.	Schedule (2 sheets) "Unaccounted for gas for The Brooklyn Union System" 1910-1923	4069	4273
264.	Schedule—"The Brooklyn Union Gas Co.—Operating Results 1923 in Brooklyn Territory" showing cost of 650 B. T. U. gas, etc.	4074	4277
265.	Statement showing gas used by Company, 1922	4079	4277
266.	Statement showing gas used by Company, 1923	4079	4277
267.	Book entitled "The Brooklyn Union Gas Co. Monthly Reports—Meter Repair Department" 1922-1923	4079	4277
268.	Book entitled "The Brooklyn Union Gas Co. Monthly Branch Reports #3" 1922-1923	4080	4278
[fol. 2262]			
269.	Book entitled "Engineers Monthly Reports, The Brooklyn Union Gas Co." 1922-1923	4081	4278
270.	Book entitled "Journal #1—The Brooklyn Union Gas Co." Nov. 4, 1895 to March 31, 1897	4090	4169
271.	Schedule showing Fixed Capital Accounts Dec. 31, 1922—June 1, 1923—Dec. 31, 1923	....	5196
272.	Schedule showing Meters and Services—1895 to 1923	....	5235
273.	Hollander Chart #1—"Prices in the United States—1913-1923 (1913 = 100) Wholesale Commodities—Retail Food—Cost of Living. Wholesale Commodities only offered (5312).	5303	5331

Exh. No. in B. U. G. Co. vs. Prendergast	Description	Page of stenographer's minutes: Identification	Page of stenographer's minutes: In evidence
274.	Pamphlet "United States Department of Labor, James J. Davis, Secretary, Bureau of Labor Statistics, Ethelbert Stewart, Commission—Monthly Labor Review, Volume XVII, No. 6, December 1923—pages 57-58	5314	....
274-A.	Pamphlet "United States Department of Labor, James J. Davis, Secretary, Bureau of Labor Statistics, Ethelbert Stewart, Commissioner—Monthly Labor Review, Volume —, No. —, December 1923—page 79, Column marked "United States Bureau of Labor Statistics revised, 404 commodities variable"	5325	....
274-B.	Pamphlet "United States Department of Labor, James J. Davis, Secretary, Bureau of Labor Statistics, Ethelbert Stewart, Commissioner—Monthly Labor Review, Volume XVIII, No. 1, January, 1924, (Pages 41-42).	withdrawn and ruled out 5324.	5319
275.	Advance Bulletin of Statistics, Department of Labor December 1923	5319	5323
276.	Federal Reserve Bulletin, January 1924, issued by the Federal Reserve Board at Washington, Bureau of Labor Statistics, column marked "All Commodities"	5326	5330
277.	No exhibit marked 277.		
278.	Hollander Chart 24 "Bank Credit, Gold Reserves and Federal Reserve notes 1919-23 (1919 average = 100)	5334	5338
279.	Hollander Chart 23—Production in Basic Industries, and Volume of Business 1919-1923	5341	5343
280.	Hollander Chart 22 "Commodity Prices in the United States 1810-1923 and England 1800-1923 (Prices in 1914 = 100)	5356	5357
[fol. 2263]			
281.	Annual Report of The Brooklyn Union Gas Co. to the Public Service Commission, for the year ended December 31, 1923, pages 18-19..	....	5704
282.	Comparative yearly Low and High Cost of Materials purchased 1913-1923	....	5772
283.	Inventory and Appraisal of Property of The Brooklyn Union Gas Company as of June 1, 1923	5871	6048
284.	Expenditures necessary to put the Works and Stations of The Brooklyn Union Gas Company in condition in which they were when new	5975	6049
285.	Minute Book of the Board of Directors—Brooklyn Gas Light Co. 1825-1848	6005	....
285 A-C.	Minutes of various meetings being extracts from Exhibit 285 for identification	....	6006
286.	Minute Book of the Board of Directors—Brooklyn Gas Light Co. 1849-1871	6026	....

Exh. No. in B. U. G. Co. vs. Prendergast	Description	Page of stenographer's minutes: Identification	Page of stenographer's minutes: In evidence
286 A-EE.	Minutes of various meetings being extracts from Exhibit 286 for identification.	....	6607 to 6613
287.	Minute Book of the Board of Directors—Brooklyn Gas Light Co. 1872-1881	6614	....
287 A-C.	Minutes of various meetings being extracts from Exhibit 287 for identification	....	6614
288.	Minute Book of the Board of Directors—Brooklyn Gas Light Co. 1881-1892	6614	....
289.	Minute Book of the Board of Directors—Citizens Gas Light Co. 1859-1870	6615	....
289 A-O.	Minutes of various meetings being extracts from Exhibit 289 for identification.	....	6615 to 6618
290.	Minute Book of the Board of Directors—Citizens Gas Light Co. 1870-1890	6619	....
290 A-I.	Minutes of various meetings being extracts from Exhibit 290 for identification.	....	6619 to 6621
291.	Minute Book of the Board of Directors—Metropolitan Gas Light Co. 1871-1888	6631	....
291 A-T.	Minutes of various meetings being extracts from Exhibit 291 for identification.	....	6632 to 6635
[fol. 2264]			
292.	Minute Book of the Board of Directors—Nassau Gas Light Co. 1870-1894	6638	....
292 A-W.	Minutes of various meetings being extracts from Exhibit 292 for identification.	....	6638 to 6643
293.	Minute Book of the Board of Directors—Peoples Gas Light Co. 1864-1883	6643	....
293 A-V.	Minutes of various meetings being extracts from Exhibit 293 for identification.	....	6643 to 6647
294.	Minute Book of the Board of Directors—Williamsburgh Gas Light Co., 1851-1875....	6649	....
294 A-FFF.	Minutes of various meetings being extracts from Exhibit 294 for identification.	....	6649 to 6663
295.	Minute Book of the Board of Directors—Williamsburgh Gas Light Co. 1876-1895	6664	....
295 A-R.	Minutes of various meetings being extracts from Exhibit 295 for identification.	....	6664 to 6668
296.	List showing all existing books of account of Vendor Cos.	....	6763
297.	Schedule showing comparison of closing entries on Books of Vendor Companies and opening entries on Books of The Brooklyn Union Gas Company	6751	6764
298.	Amended Certificate of Incorporation, The Brooklyn Union Gas Company, in which Capital Stock of shares of the par value of $100 are changed for shares having no par value	7416	7418

Exh. No. in B. U. G. Co. vs. Prendergast	Description	Page of stenographer's minutes: Identification	Page of stenographer's minutes: In evidence
299.	Schedule entitled "Gas Securities, Book of Quotations from Financial Chronicle" showing prices at which the stocks and bonds of Vendor Companies sold at Nov. 4, 1895 and at various periods during 1896	7418	7428
300.	Two Sheets entitled (1) Quotations on Brooklyn Union Gas Co. Stock as reported in the Financial & Commercial Chronicle, and (2) Quotations on Brooklyn Union Gas Company five per cent Bonds, as reported in the Financial & Commercial Chronicle from June 1896 to Dec. 31, 1896	7429	7430
301.	Sheet entitled "The Brooklyn Union Gas Co. Dividends" also "Prices of the securities of The Brooklyn Union Gas Co. as of June 1, 1923	7430	7435
[fol. 2265]			
302.	Schedule, two pages, showing quotations on sales of various securities of The Brooklyn Union Gas Co. during the year 1923	7435	7436
303.	Pamphlet "Opinion of The Public Service Commission of the State of New York (No. 22) decided Aug. 30, 1922, Case 279	7436	7442
304.	Pamphlet "Opinion of the Public Service Commission of the State of New York, (No. 23) decided Aug. 30, 1922, Cases Nos. 79 and 108	7436	7442
305.	Deed dated May 1, 1896, between Aaron P. Bates and Henry Chilton recorded in the office of the Register of Kings County in Liber 3, page 195 of Conveyances, in Section 10 Block 2888, 2897, 2898, 2927, May 11, 1896 (deed in foreclosure of property of Equity Gas Light Co. of the Eastern District)	7442	7443
306.	Chart showing companies, dates of Incorporation, Franchises, of The Brooklyn Union Gas Co. and predecessor companies	7444	7444
307.	Deed dated Oct. 15, 1923, the Brooklyn Improvement to The Brooklyn Union Gas Co. recorded in the office of the Register of Kings County in Liber 4319, page 176, Block 977A of Conveyances, Oct. 16, 1923	7444	7447
308.	Survey of property described in deed marked Exhibit 307	7444	7447
309.	Schedule "The Brooklyn Union Gas Co. Fixed Capital Accounts June 1, 1923 to December 31, 1923	7447	7449
310.	Schedule entitled "Exhibit 283 continued to December 31, 1923"	7449	7450

[fol. 2266] DEFENDANT'S EXHIBITS

Exhibit No.	Description	For id.	In ev.
1.	Exhibit 258 from printed record "Report and Testimony of the Joint Committee of the Senate and Assembly to inquire into the Gas and Electric Lighting Companies in the City of New York, Vol. II, pages 1549 to 1568."	190	....
2.	Atlas of Mains—in evidence as Plaintiff's Exhibit 169	1876	....
3.	Gas Age Record June 16, 1923—Page 728 "Quotations Cast Iron Pipe."	1966	2075
4.	Iron Age—annual Review Section, Page 85, Jan. 3, 1924	1971	....
5.	Invoice of United States Cast Iron Pipe & Foundry Co., dated Nov. 14, 1923, for freight, $147.73	1983	....
6.	Letter of John H. Duncan, Inc., to Kings County Lighting Co., dated June 11, 1923..	2022	....
7.	Iron Age—June 7, 1923—Page 1662—re cast iron pipe	2080	2080
8.	Engineering News Record—June 7, 1923—Page 1025—re cast iron pipe	....	2080
9.	Gas Age Record—Jan. 5, 1924—advertisement of Chicago Pneumatic Tool Co.	2167	....
	Advertisement of U. G. I. Contracting Co....	6130	....
10.	Gas Age Record—Jan. 19, 1924—advertisement of Ingersoll Rand Co.	2167	....
11.	Book entitled "Record of Trunk Lines and Mains—The Brooklyn Union Gas Co.—No. 2	2196	....
12.	Gas Age Record—June 2, 1923—Page 724 "Quotations Cast Iron Pipe"	2243	2245
13.	Invoice of United States Cast Iron Pipe & Foundry Co., dated July 28, 1923 for Cast Iron Pipe—$3,068.47	2247	2249
14.	Invoice of United States Cast Iron Pipe & Foundry Co., dated Nov. 5, 1923 for Cast Iron Pipe—$1,591.40	2247	2249
15.	Statement showing certain streets in which parallel mains are laid	2293	2406
16.	Statement showing dates of installation of certain parallel mains	2373	....
17.	Statement showing the number of feet and equivalent miles of mains as of Jan. 1, 1896	2373	2406
18.	Affidavit of Edwin Ludlam, being Exhibit No. 278 in printed record "Report and Testimony of the Joint Committee of the Senate and Assembly to Inquire into the Gas & Electric Lighting Cos. in the City of N. Y., Vol. II, P. 1436	2472	....
[fol. 2267]			
19.	Affidavit of Edwin Ludlam, being Exhibit 275 in printed record "Report and Testimony of the Joint Committee of the Senate and Assembly to Inquire into the Gas and Electric Lighting Companies in the City of New York, Vol. II, Page 1430"	2475	....
20.	Complaint of The Brooklyn Union Gas Company to the State Tax Commission, dated June 1, 1900	....	2483
21.	Statement entitled "The Brooklyn Union Gas Co. Repairs 1914-1923"	2604	....

Exhibit No.	Description	For id.	In ev.
22.	Iron Age—June 7, 1923—"Quotations on Wrought Iron Pipe"	2617	....
23.	Book entitled "The Brooklyn Union Gas Co. Mains Taken up—1923"	2679	....
24.	Schedule entitled "The Brooklyn Union Gas Co. Mains Retired 1922 and 1923"	2684	....
25.	Analysis of Cost of Main Laying, dated October 3, 1914, being Exhibit No. 54 in P. S. C. Case 1610	2747	....
26.	Statement showing cost of installing mains from January 1, 1901 to December 1905	2754	....
27.	Affidavit of John T. White, in printed papers for preliminary injunction in The Brooklyn Union Gas Co. vs. Newton, Equity	2760	....
28.	Report of The Brooklyn Union Gas Company to the State Tax Commission for the year ended December 31, 1922	2782	4248
29.	Schedule showing Mains withdrawn January 1, 1910 to December 31, 1923	2811	2815
30.	Schedule entitled "The Brooklyn Union Gas Company—Summary of Business, showing cost of the Manufacture of gas, for the year ending October 31, 1906" (Being B. U. G. Exhibit No. 26, in proceedings entitled "In the Matter of The Brooklyn Union Gas Company" before the Commission of Gas & Electricity)	4237	5174
31.	Sheet entitled "The Brooklyn Union Gas Company—Work Order R-204"	4335	....
32.	Sheet entitled "The Brooklyn Union Gas Company—Work Order 3637" (consisting of 5 sheets)	4336	....
33.	Letter dated January 24, 1923, in re charges to subsidiary companies—from J. I. Blanchfield, Assistant Auditor to J. H. Jourdan, President (consisting of 2 pages)	....	4601
[fol. 2268]			
34.	Portion of Minutes of Board of Directors of The Brooklyn Union Gas Company, dated September 2, 1920, relating to Holder No. 2 (being pp. 29, 30 and 31 of minutes)	....	4637
35.	Lease dated February 15, 1922, between The Newtown Gas Co. for lease of Newtown Holder No. 2 (consisting of 6 sheets)	....	4637
36.	Minutes of Regular Monthly Meeting of the Board of Directors of The Brooklyn Union Gas Company, dated September 19, 1907	....	4668
37.	Minutes of a Special Meeting of the Board of Directors of The Brooklyn Union Gas Company, dated April 13, 1909	....	4676
38.	Minutes of a Special Meeting of the Board of Directors of The Brooklyn Union Gas Company, dated August 9, 1917	....	4700
39.	Letter of Public Service Commission to James Gilmer, Auditor, dated June 21, 1917 (consisting of 4 pages)	....	4705
40.	Letter from Henry E. McGowan, Secretary, to Public Service Commission, dated, September 27, 1917 (consisting of 5 pages)	....	4709
41.	Letter of Public Service Commission to The Brooklyn Union Gas Company, Henry E. McGowan, Secretary, dated October 9, 1917..	....	4709

Exhibit No.	Description	For id.	In ev.
42.	Letter of Public Service Commission to The Brooklyn Union Gas Company, James Gilmer, Auditor, dated June 12, 1918 (consisting of 3 pages)	....	4710
43.	Letter of A. F. Staniford, Vice-President to James B. Walker, Secretary, Public Service Commission, dated August 16, 1918 (consisting of 4 pages)	....	4712
44.	Letter of Public Service Commission to The Brooklyn Union Gas Company, A. F. Staniford, Vice-President, dated Sept. 10, 1918..	....	4717
45.	Letter of A. F. Staniford, Vice-President, to Public Service Commission, dated October 5, 1918 (consisting of 4 pages)	....	4718
46.	Schedules showing method and calculations in arriving at charge per thousand to Subsidiary Cos. for joint expenses, etc.	....	4799
47.	Annual Report of The Brooklyn Union Gas Co. to the Public Service Commission for the year ended December 31, 1922—pages 44, 45 and 46	....	5725
48.	Photograph of 1016-1024 Fulton Street	....	5908
49.	Photograph of 191 and 197 St. James Place..	....	5915
50.	Photograph of 130 Atlantic Avenue	....	5917
51. [fol. 2269]	Photograph of 419-421 Fifth Avenue	....	5918
52.	Photograph of 324 Bedford Avenue	....	5921
53.	Photograph of 176-180 Remsen Street	....	5974
54.	Gas Age Record, April 26, 1921 (Cover)—Advertisement of The Bartlett Hayward Co. Levey Hot Valve	6192	....
55.	Gas Age Record, June 9, 1923 (Page 3)—Advertisement of The Bartlett Hayward Co. Waste Heat Boilers	6195	....
56.	Gas Age Record, February 24, 1923 (Page 3)—Advertisement of The Bartlett Hayward Co. Purifiers	6205	....
57.	Gas Age Record, February 10, 1923 (Page 3)—Advertisement of The Bartlett Hayward Co. Shaving Scrubbers	6207	....
58.	Gas Age Record, January 26, 1924 (Page 3)—Advertisement of The Bartlett Hayward Co. Purifier Boxes	6211	....
59.	Schedule of 6 sheets—Kings County Lighting Co. Operating Expenses—year ended December 31, 1923	....	6496
60.	Portion of Minutes of the Board of Directors of the Williamsburgh Gas Light Co., dated October 1, 1851, re: charge to be made for service pipes	....	6794
61.	Portion of Minutes of the Board of Directors of the Williamsburgh Gas Light Co., dated May 25, 1852, re: authorization of Superintendent to construct 15 retorts	....	6803
62.	Portion of Minutes of the Board of Directors of the Williamsburgh Gas Light Co., dated February 20, 1852, re: acceptance of $350 on account, rendered to Garner & Smith for meters	....	6804
63.	Schedule (13 sheets) the Williamsburgh Gas Light Company—Construction Account—Jan. 1, 1885 to Dec. 31, 1890	7064	....

Exhibit No.	Description	For id.	In ev.
64.	Schedule (18 sheets) the Williamsburgh Gas Light Company—Construction Account—Jan. 1, 1891 to Nov. 4, 1895	7064	....
65.	Schedule (1 sheet) the Williamsburgh Gas Light Company—Cost of and Amount of Pipe Charged Construction Account Jan. 1, 1881 to December 31, 1884	7065	....
66.	Schedule (2 sheets) the Williamsburgh Gas Light Company—Cost of and Amount of Pipe charged Construction Account Jan. 1, 1885 to Dec. 31, 1890	7065	....
67.	Schedule (3 sheets) the Williamsburgh Gas Light Company—Pipe Purchased April 10, 1891 to Oct. 29, 1895	7066	....
68.	Schedule (2 sheets) the Williamsburgh Gas Light Company—Meters Purchased Jan. 1, 1875 to Dec. 31, 1880	7066	....
[fol. 2270]			
69.	Schedule (2 sheets) the Williamsburgh Gas Light Company—Meters Purchased Jan. 1, 1881 to Dec. 31, 1884	7066	....
70.	Schedule (9 sheets) the Williamsburgh Gas Light Company—Analysis of Meter Account Jan. 1, 1885 to Oct. 29, 1895	7067	....
71.	Schedule (18 sheets) the Williamsburgh Gas Light Company—Analysis of Services—Jan. 15, 1885 to Nov. 4, 1895	7067	....
72.	Schedule (1 sheet) the Williamsburgh Gas Lt. Co.—Collection from Consumers on Account of Services—1884 to 1895	7067	....
73.	Entries in books referred to on Defendant's Exhibits 63 to 72, for identification	....	7071
74.	Schedule (2 sheets) Metropolitan Gas Light Co. Receipts for Service Pipe 1872 to 1895..	7100	....
75.	Schedule (3 sheets) Metropolitan Gas Lt. Co. Extracts from Journal "A"	7100	....
76.	Schedule (1 sheet) Metropolitan Gas Lt. Co. List of Bills to be paid and payments to be made on account of Tank & Holder—1872 to 1873	7101	....
77.	Schedule (3 sheets) Metropolitan Gas Light Co. Construction Account—1871 to 1873....	....	....
78.	Schedule (3 sheets) Metropolitan Gas Light Co. Meter Account 1872—Sept. 30, 1874....	7101	....
79.	Schedule (1 sheet) Metropolitan Gas Light Co.—Contract made for the Erection of Gas Holder Tank, and Gas Holder, Purchase of Station Meter, year 1888	7101	....
80.	Schedule (1 sheet) Metropolitan Gas Lt. Co.—Cost of Holder 23, as shown by items in Construction Account, Ledger "A" and by Minutes of Board of Directors, Meeting March 10, 1891	7102	....
81.	Schedule (1 sheet) Metropolitan Gas Light Co.—Construction Wilkinson Process	7102	....
82.	Entries referred to on Defendant's Exhibits 74 to 81 for Id.	7107	....
83.	Schedule (9 sheets) Brooklyn Gas Lt. Co. Extracts from Journal "A"	7128	....
84.	Schedule (2 sheets) Brooklyn Gas Lt. Co. Extracts from Journal "B"	7129	....

[fol. 2271]

Exhibit No.	Description	For id.	In ev.
85.	Schedule (8 sheets) Fulton Municipal Gas Co. Analysis of Construction Account	7153	....
86.	Schedule (1 sheet) Fulton Municipal Gas Co. Gas Works Account	7153	....
87.	Schedule (1 sheet) Fulton Municipal Gas Co. Cost of Construction with entries made on April 1879 and July 12, 1880	7153	....
88.	Schedule (1 sheet) Fulton Municipal Gas Co. Cost of Holder built 1888-1889	7154	....
89.	Schedule (2 sheets) Fulton Municipal Gas Co. Cost of Holder built 1894-1895	7154	....
90.	Schedule (2 sheets) Fulton Municipal Gas Co. Trial Balance Nov. 4, 1895	7157	....
91.	Schedule (5 sheets) Union Gas Light Co. Extracts from Cash Book 1862—Dec. 27, 1875	7157	....
92.	Schedule (1 sheet) Union Gas Light Co. American Meter Co. Account, ledger page 135	7157	....
93.	Schedule (14 sheets) Citizens Gas Co. Opening Entries at Consolidation	7158	....
94.	Schedule (1 sheet) Citizens Gas Co. Trial balance of ledger after opening entries on Consolidation April 1, 1892	7160	....
95.	Schedule (1 sheet) Union Gas Light Co. Entries on Page 680 of Cash Book being charge to Woodhaven Gas Light Co. for certain materials	7160	....
96.	Schedule (4 sheets) Citizens Gas Co. Extracts from Invoice Book 21	7160	....
97.	Books of Account of the Seven Vendor Companies as listed on Plaintiff's Exhibit 296 ..	....	7193
98.	Schedule (3 sheets) Nassau Gas Light Co. Summary of Certain Items of Construction Account	7244	....
99.	Schedule (1 sheet) Nassau Gas Light Co. Statement to Show Cost of Meters of Various Sizes, also Fittings	7244	....
100.	Schedule (5 sheets) Nassau Gas Light Co. Statement to Show Material Cost of Different Size Mains and Fittings	7244	....
101.	Schedule (2 sheets) Nassau Gas Light Co. Statement showing Costs of Pipe, Fittings..	7244	....
102.	Schedule (1 sheet) Nassau Gas Light Co. "Account Holder No. 2"	7245	....
[fol. 2272]			
102-A.	Schedule (1 sheet) Nassau Gas Light Co. "Account Holder No. 2"	7245	....
103.	Schedule (2 sheets) Nassau Gas Light Co. "Account—The American Meter Co."	7245	....
104.	Schedule (1 sheet) Nassau Gas Light Co. Statement showing M Cubic Feet Gas Made and certain other statistics	7245	....
104-A.	Schedule (1 sheet) Nassau Gas Light Co. Statement showing M Cubic Feet Gas Made and certain other statistics	....	....
105.	Schedule (1 sheet) Nassau Gas Light Co. "Drains and Sewers and Light-ing Rods on Three Chimneys at Works"	7245	....
106.	Schedule (1 sheet) Nassau Gas Light Co. "Benches and Chimneys"	7246	....

Exhibit No.	Description	For id.	In ev.
106-A.	Schedule (1 sheet) Nassau Gas Light Co. "Account of J. H. Whittier"	....	....
107.	Schedule (1 sheet) Nassau Gas Light Co. "Account Smith & Sayre Manufacturing Co."	7246	....
107-A.	Schedule (1 sheet) Nassau Gas Light Co. "Account Smith & Sayre Manufacturing Co."	....	....
108.	Schedule (1 sheet) Nassau Gas Light Co. "St. James Place Works Shop and Stable"	7246	....
108-A.	Schedule (1 sheet) Nassau Gas Light Co. "Account Shop Expense—Building"	....	....
109.	Schedule (1 sheet) Nassau Gas Light Co. "Account E. D. White"	7246	....
109-A.	Schedule (1 sheet) Nassau Gas Light Co. "Account E. D. White"	....	....
110.	Schedule (1 sheet) Nassau Gas Light Co. "Account Whittier Elevator Co."	7246	....
110-A.	Schedule (1 sheet) Nassau Gas Light Co. "Account Whittier Elevator Co."	....	....
111.	Schedule (1 sheet) Nassau Gas Light Co. "Account John H. Deeves & Brother"	7246	....
111-A.	Schedule (1 sheet) Nassau Gas Light Co. "Account John H. Deeves & Brother"	....	....
112.	Schedule (1 sheet) Nassau Gas Light Co. "Account Coal Shed"	7246	....
112-A.	Schedule (1 sheet) Nassau Gas Light Co. "Account Coal Shed"	....	....
[fol. 2273]			
113.	Schedule (1 sheet) Nassau Gas Light Co. "Account Libby & Keese"	7247	....
113-A.	Schedule (1 sheet) Nassau Gas Light Co. "Account Libby & Keese."	....	....
114.	Schedule (1 sheet) Nassau Gas Light Co. "Account J. & J. Van Riper"	7247	....
114-A.	Schedule (1 sheet) Nassau Gas Light Co. "Account J. & J. Van Riper"	7247	....
115.	Schedule (1 sheet) Nassau Gas Light Co. "Account S. M. Randall"	7247	....
115-A.	Schedule (1 sheet) Nassau Gas Light Co. "Account S. M. Randall"	....	....
116.	Schedule (1 sheet) Nassau Gas Lt. Co. "Account Continental Iron Works"	7247	....
116-A.	Schedule (1 sheet) Nassau Gas Lt. Co. "Account Continental Iron Works"	....	....
117.	Schedule (1 sheet) Nassau Gas Lt. Co. "Account Fred Bredel"	7247	....
117-A.	Schedule (1 sheet) Nassau Gas Lt. Co. "Account Fred Bredel"	....	....
118.	Schedule (1 sheet) Nassau Gas Lt. Co. "Account Jesse W. Starr & Son"	7247	....
118-A.	Schedule (1 sheet) Nassau Gas Light Co. "Account Jesse W. Starr & Son"	....	....
119.	Schedule (1 sheet) Nassau Gas Lt. Co. "Account Henry Case"	7248	....
119-A.	Schedule (1 sheet) Nassau Gas Lt. Co. "Account Henry Case"	....	....
120.	Schedule (1 sheet) Nassau Gas Lt. Co. "Account Davis & Farnum Manufacturing Co."	7248	....
120-A.	Schedule (1 sheet) Nassau Gas Lt. Co. "Account Davis & Farnum Manufacturing Co."	....	....
121.	Schedule (1 sheet) Nassau Gas Lt. Co. "T. F. Rowland, Contract No. 2"	7248	....

Exhibit No.	Description	For id.	In ev.
121-A.	Schedule (1 sheet) Nassau Gas Lt. Co. "T. F. Towland, Contract No. 2"	....	....
122.	Schedule (1 sheet) Nassau Gas Light Co. "Tank & Holder"	7248	....
122-A.	Schedule (1 sheet) Nassau Gas Light Co. "Account T. F. Rowland % Holder"	....	....
123.	Schedule (1 sheet) Nassau Gas Light Co. "Account Holder No. 3"	7248	....
123-A.	Schedule (1 sheet) Nassau Gas Light Co. "Account Holder No. 3"	....	....
[fol. 2274]			
124.	Schedule (1 sheet) Nassau Gas Lt. Co. "Account Water-Gas Plant"	7248	....
124-A.	Schedule (1 sheet) Nassau Gas Lt. Co. "Account Water-Gas Plant"	....	....
125.	Schedule (1 sheet) Nassau Gas Light Co. "Carpenter Work"	7249	....
125-A.	Schedule (1 sheet) Nassau Gas Light Co. "Carpenter Work"	....	....
126.	Schedule (1 sheet) Nassau Gas Light Co. "Masonry"	7249	....
126-A.	Schedule (1 sheet) Nassau Gas Lt. Co. "Account S. L. Keeney"	....	....
127.	Schedule (1 sheet) Nassau Gas Lt. Co. "Account J. H. Whittier"	7249	....
127-A.	Schedule (1 sheet) Nassau Gas Lt. Co. "Account J. H. Whittier"	....	....
128.	Schedule (1 sheet) Nassau Gas Lt. Co. "Account T. F. Rowland"	7249	....
128-A.	Schedule (1 sheet) Nassau Gas Lt. Co. "Account T. F. Rowland"	....	....
129.	Schedule (6 sheets) Nassau Gas Light Co. "Analysis of Construction Account, Debit Side"	7249	....
130.	Schedule (3 sheets) Nassau Gas Light Co. "Analysis of Construction Account, Credit Side"	....	....
131.	Schedule (1 sheet) Nassau Gas Light Co. "Memorandum showing Authorization for entering into contracts for four condensers"	7250	....
132.	Schedule (9 sheets) of Working Papers of Mr. A. S. Miller with reference to valuation and capacities Nov. 4, 1895 (at page 7413 marked separately 132A to 132H.)	....	7406 & 7413
133.	"Additions to Fixed Capital" Oct. 1, 1919 to May 31, 1923	7509	7512
134.	Same as Exh. 133 except that it is arranged according to Works	7513	7534
135.	"Brooklyn Union Gas Co., Fixed Capital Dec. 31, 1908, Retirements Oct. 1, 1919 to Dec. 31, 1919"	7535	7537
136.	"Brooklyn Union Gas Co. Additions to Fixed Capital Oct. 1, 1919 to Dec. 31, 1919"	7537	7539
137.	Retirements of Fixed Capital from Oct. 1, 1919 to May 31, 1923 showing that part of Fixed Capital installed prior to Dec. 31, 1908"	7539	7540
138.	Same as Exh. 137, showing that part of Fixed Capital installed since Dec. 31, 1908	7540	7541
139.	New meters purchased during the month of May 1923 by The Brooklyn Union Gas Co.	7546	7548
[fol. 2275]			
140.	New Meters purchased during the month of June 1923 by The Brooklyn Union Gas Co...	7548	7548

Exhibit No.	Description	For id.	In ev.
141.	Meters on district on hand and in meter repair shops, the property of The Brooklyn Union Gas Co. on May 31, 1923, etc.	7549	....
142.	Meters purchased in July and August, 1896 from various companies, during certain months in 1895 and 1896	7563	7564
143.	Repairs of Gas Meters during year 1923	7564	7565
144.	Repairs to Gas Mains for the year 1923 by months	7565	7566
145.	Repairs to Services for the year 1923 by months	7566	7566
146.	Repairs to Distribution Tools for year 1923	7567	7567
147.	Statement showing Gas Meters withdrawn from Service from June 1, 1923 to Dec. 31, 1923	7749	7750
148.	Statement showing number of Complaints in reference to Gas Meters	7755	7758
149.	Statement showing Cost of Mains for the years 1901, 1902, 1903, 1904 & 1905; also cost of laying mains	7774	....
150.	Statement made by Brooklyn Union Gas Co. for presentation to the Commission of Gas & Electricity	7776	....
151.	Sheet entitled "Derivation of percentage of Expenses other than production applicable to Sub. Cos. in the year 1923"	7903	7905
152.	"Operating Expenses 1923, as apportioned between the B. U. G. Co. & Sub. Cos." (By Mr. B. Cohen)	7911	7912
153.	"Expenses other than Production applicable to Gas Sold to Subsidiaries, year 1923"	7906	7912
154.	Sheet entitled "Distribution Expenses, applicable to B. U. G. Co. & Sub. Cos."	7908	7912
155.	Statement showing "Taxes applicable to Gas Sold to Subsidiaries, year 1923"	7909	7915
156.	Statement showing "Cost other than Production applicable to Gas Sold to Subsidiaries, Year 1923"	7915	7917
157.	Statement showing "Amount of the Gross earnings Tax payable by the B. U. G. Co. at the dollar gas rate"	7918	7923
158.	Statement showing "Amount of the Transportation Expenses 1923"	7923	7952
159.	Account entitled "Transportation Expense in 1924, Operation of Transportation Service"	....	7933
[fol. 2276]			
160.	Account entitled "Transportation Expense in 1924, Maintenance of Transportation Equipment"	....	7933
161.	Journal entries supporting the entries in the ledgers in the two accounts above referred to in Exhibits 159 and 160	....	7934
162.	Statement prepared from Monthly Reports and Meter Repair Dept. and shows repaired meters, regular and prepayment, delivered during each month and on hand at end of each month from June to December 1923	8201	8202
163.	Gas Appliance Record No. 6 of The Brooklyn Union Gas Co.	8302	8302
164.	Gas Stove Cock	8296	....
165.	Gas Stove Cock	8296	....

Exhibit No.	Description	For id.	In ev.
166.	Statement entitled "Derivation of Percentage of Expenditures other than Production applicable to Subsidiary Cos. 1924"	8305	8705
167.	Statement showing Gross Profits for the Gas Mdse. Revenue	8304	8705
168.	Statement entitled "Computation of Gross Earnings Tax for 1924"	8348	....
169.	Statement entitled "Estimate of Taxes for 1924"	....	8705
170.	Statement made up from Ledgers of the New town, Flatbush, Jamaica, Richmond Hill and Woodhaven Cos.	....	8343
171.	Statement of the amount of the Gas Mdse. & Jobbing Revenue & Promotion Expense, reported in the Annual Reports for 1923 to the Commission	8625	8631
172.	Statement entitled "Estimate of Reasonable Production Costs of Gas sold during the forthcoming 12 months, based on Plaintiff's records"	8647	8679
173.	Statement entitled "Estimate of Working Capital Required"	8679	8692
174.	Statement showing Cost in cents per thousand cubic feet of gas made by months in graphic form	8692	8695
175.	Statement entitled "Estimate of Cost Beyond the Holder not including Federal Income Tax"	8695	8704
176.	Statement entitled "Estimate of Reasonable Investment in Property as of June 1, 1923"	8706	....
177.	Allocation of the Jointly used property (made by Mr. A. S. B. Little) following the basis of allocation made by Colonel Miller of this property	8733	....
[fol. 2277]			
178.	Chart showing Average Price, according to the Monthly Review Section of the American Metal Market & Daily Iron and Steel Reports of various kinds of pig iron in May 1923, up to and including June 1923, by months	8735	8741
179.	Chart showing price for galvanized sheets, bars, plates & steel shapes from the Monthly Review Section of the American Metal Market & Daily Iron and Steel Report	8736	8741
180.	Statement showing Dividends paid by various vendor companies up to the time of purchase in 1895	8742	8744
181.	Tabulation of Quotations from the Financial Chronicle of the Brooklyn Gas Light Co., Citizens, Nassau and some script of the Nassau, Peoples, Metropolitan and Williamsburgh, etc.	8746	....
182.	Public Service Commissions Law, being Chapter 429 of the Laws of 1907	8746	8747
183.	Chapter 737 of the Laws of 1905, which created the Commission of Gas & Electricity and gave them certain powers	....	....
184.	Transportation Corporations Law, article applying to gas companies	8747	8747

Exhibit No.	Description	For id.	In ev.
185.	Schedule showing the Federal Income Tax payable by the B. U. G. Co. on its earnings from the gas business from the year 1924 based on revenues and expenses	8748	....
186.	Tabulation of installation and withdrawal of meters for each of the years from 1913 to 1923 incl., by months	8768	8787
187.	Assessed values of the land unimproved and improved, for the year 1923	9795	9796

[fol. 2278] PLAINTIFF'S EXHIBIT 3

Extract from Minutes of Meeting of Board of Directors The Brooklyn Union Gas Company Held September 30th, 1895

* * * * * * *

"The Treasurer and Counsel of the Company reported such facts as they had been able to ascertain in regard to the present distribution of the stock of several of the Gas Companies now doing business in the City of Brooklyn, and stated the reasons for their belief that it was practicable for this Company to purchase the property, rights and franchises of several of such Companies in consideration of an amount of bonds and stock of this Company to be agreed upon.

After discussion it was on motion, duly seconded,

Resolved, that the President, Mr. Young and Messrs. Dickerman and Turnbull of the Board be and hereby are appointed a Committee to investigate and report upon the desirablity of the acquisition by this Company of the property and franchises of one or more of said Brooklyn Companies, and also the price at which and the terms upon which in their opinion such properties and franchises can be acquired, and to make such recommendations to the Board in regard thereto as they may see fit.

* * * * * * *

I hereby certify that I have compared the foregoing with the original minutes of the Board of Directors of The Brooklyn Union Gas Company, meeting held September

30th, 1895, and the same is a true and correct transcript therefrom.

(Sgd.) F. R. Wogan, Assistant Secretary the Brooklyn Union Gas Company.

[fol. 2279] PLAINTIFF'S EXHIBIT 4

Extract from Minutes of Meeting of Board of Directors The Brooklyn Union Gas Company Held in October 2nd, 1895

* * * * * * *

"The Committee appointed at the last meeting to investigate and report upon the desirability of the acquisition by this Company of the property and franchises of one or more of said Brooklyn Companies, etc., made their report.

On motion, duly seconded, the report was accepted and ordered on the files of the Company.

After discussion, on motion, duly seconded, the Committee was continued with instructions to confer further with the officers and stockholders of so many of the Brooklyn Gas Companies referred to in their report as they should think best, and if practicable and subject to the approval of the Board to agree upon the terms of contracts for the purchase of the property, rights and franchises of said Companies substantially at the price or prices recommended in the report of said Committee, with instructions further, when the terms of such contracts shall have been formulated to submit the same to the Board for its further action.

After discussion, on motion, duly seconded, the Secretary was authorized and directed to address a letter to each of said Brooklyn Gas Companies notifying them of the appointment of the above Committee and the purpose thereof and requesting each of them to appoint a Committee of Conference.

* * * * * * *

I hereby certify that I have compared the foregoing with the original minutes of the Board of Directors of The

Brooklyn Union Gas Company, meeting held October 2nd, 1895, and the same is a true and correct transcript therefrom.

—— ——, Asst. Secretary The Brooklyn Union Gas Co.

[fol. 2280] PLAINTIFF'S EXHIBIT 5

Extract from Minutes of Meeting of Board of Directors The Brooklyn Union Gas Company Held October 19th, 1895

* * * * * * *

"The Committee continued at the last meeting with instruction to confer further with officers and stockholders of the Brooklyn Gas Companies referred to in their report and if practicable and subject to the approval of the Board to agree upon the terms of contracts for the purchase of the property, rights and franchises of said Companies, made their further report.

On motion, duly seconded, the report was accepted and ordered on the files of the Company, and the contracts mentioned therein were read and on motion, duly seconded, were ordered spread upon the minutes.

Upon motion, duly seconded, it was unanimously

Resolved, that the said seven contracts, to-wit, with the Brooklyn Gas Light Company, with the Citizens Gas Company of Brooklyn, with The Peoples Gas Light Company, with The Fulton Municipal Gas Company, with the Williamsburgh Gas Light Company, with The Nassau Gas Light Company and with the Metropolitan Gas Light Company be and the same are severally hereby approved as read, and that this Company make and enter into the said several contracts, and that the President and Secretary of this Company be any they are hereby authorized and directed to execute and deliver each of the said contracts on behalf of this Company, the President signing the same with the corporate name and the Secretary attaching thereto the corporate seal of this Company, and attesting the same.

* * * * * * *

I hereby certify that I have compared the foregoing with the original minutes of the Board of Directors of The Brooklyn Union Gas Company, meeting held October 19th, 1895, and the same is a true and correct transcript therefrom.

—— ——, Assistant Secretary The Brooklyn Union Gas Company.

[fol. 2281] PLAINTIFF'S EXHIBIT 6

Extract from Minutes of Meeting of Board of Directors of the Brooklyn Union Gas Co. Held November 1st, 1895

* * * * * * *

"Counsel for the Company then submitted a form of mortgage in accordance with the resolutions heretofore passed by the Board, and after discussion, on motion, duly seconded, it was

Resolved, that the officers of the Company be and hereby are authorized to execute the said mortgage just read the President by signing the same with the corporate name and the Secretary by affixing the corporate seal thereto and attesting the same, and to deliver the said mortgage so executed to the Trustee therein named, to-wit, The New York Guaranty and Idemnity Company.

(The following is a true copy of said mortgage.)

* * * * * * *

After discussion, on motion, duly seconded, the following preamble and resolutions were unanimously adopted.

Whereas this Company has purchased gas works, plants and other property in the City of Brooklyn and rights, privileges and franchises all of which are necessary or useful in its business and in part payment for the same has agreed to issue all the bonds of the par value of fifteen million dollars in the aggregate to be secured by a mortgage to the New York Guaranty and Indemnity Company as Trustee upon all said property, rights, privileges and franchises, which bonds and mortgage were authorized by resolutions of this board adopted September 10th, 1895, and by the preceding resolution.

Be is Resolved, that the said New York Guaranty and Indemnity Company be and it is hereby authorized and directed, immediately upon delivery of said mortgage to it, to certify as Trustee thereunder all of the bonds secured [fol. 2282] thereby, to-wit, fifteen thousand bonds for one thousand dollars each, and to deliver all of said bonds to the vendors of said property or their respective agents; the principal amount of said bonds to be delivered to each of them, as its portion in said bonds of the purchase price of said property, rights, privileges and franchises, being as follows:

Vendors	Aggregate principal of bonds
The Brooklyn Gas Light Company	$1,950,000.00
The Citizens Gas Company of Brooklyn	1,500,000.00
The Fulton Municipal Gas Company of the City of Brooklyn	2,850,000.00
Metropolitan Gas Light Company of Brooklyn	1,500,000.00
The Nassau Gas Light Company	3,150,000.00
The Peoples' Gas Light Company	900,000.00
Williamsburg Gas Light Company	3,150,000.00

Provided however, that such delivery of said bonds shall be as follows:

Bonds for the principal sum in the aggregate of $3,900,000 are to be delivered to and retained by the said Trustee and used only in exchange for or to retire or provide for the purchase or payment of bonds or obligations of the said several vendor companies, said amount of said bonds having been appropriated reserved for that purpose in and by the several contracts of purchase and said aggregate amount being made up of the several separate amounts with reference to the respective vendors that are stated in said mortgage; and said bonds are to be so retained by said Trustee subject in all respects to the provisions of said mortgage in that regard.

[fol. 2283] Bonds for the principal sum in the aggregate of $500,000, shall be delivered to the firm or Moore and Schley of No. 80 Broadway in the City of New York, bonds aggregating the said amount having been appropriated by the vendors in the said several contracts of purchase to the

payment of commissions and expenses of the negotiations incident to the sales and purchasers and the conveyance, transfer assignment of the said property, rights, privileges and franchises, and made subject to the order of this Company in respect to delivery by the Trustee.

Bonds for the principal sum in the aggregate of $500,000 are to be retained by the said Trustee for future delivery upon the orders of this Company, bonds of that aggregate amount having been by vendors in the said several contracts appropriated for making improvements upon and betterments and additions to the property to become subject to said mortgage or acquiring other property to become subject thereto, and made subject to the order of this company in respect to delivery by said Trustee.

And the said several vendors having directed in the said several contracts of purchase the disposition to be made of the remainder of said bonds, to wit, bond for the principal sum in the aggregate of $10,100,000, said remainder of said bonds is to be retained by the said Trustee and disposed of as directed by the said several contracts of purchase, or as directed by the further order of said vendors or any of them.

And whereas in payment for the gas works and other property and the rights, privileges and franchises referred to in the foregoing resolutions this Company has further [fol. 2284] agreed to issue and deliver to the said purchasers all its authorized and unissued capital stock to-wit, stock of the aggregate par value of $14,996,500.

And whereas, the said vendors have in the aforesaid contracts of purchase required and directed the said stock to be delivered by this Company to the said New York Guaranty and Indemnity Company for their benefit and to be disposed of by it as directed in said contracts.

Be it further resolved, that the officers of this Company be and they are hereby authorized and directed to make, execute and deliver to said New York Guaranty and Indemnity Company certificates in convenient amounts for said stock to be retained by the said Trustee and disposed of as directed by the said several contracts of purchase, or as directed by the further order or orders of said vendors or any of them.

Be it further resolved that the said New York Guaranty

and Indemnity Company be requested to certify to said vendors respectively that it has received from this Company for account of said vendors respectively pursuant to the terms of the said contracts of sale the respective amounts of bonds and stock of this Company as follows:

For	Bonds	Stock
The Brooklyn Gas Light Company	$1,950,000	$1,950,000
Metropolitan Gas Light Company	1,500,000	1,500,000
Citizens Gas Company of Brooklyn	1,500,000	1,500,000
Fulton Municipal Gas Company	2,850,000	{ 2,846,500 3,500 in cash.
Williamsburgh Gas Light Company	3,150,000	3,150,000
Nassau Gas Light Company	3,150,000	3,150,000
The Peoples Gas Light Company	900,000	900,000

Be it further resolved, that the Secretary of this Company be and he is hereby directed to deliver to the said [fol. 2285] Trustee copies certified by him of the said resolutions of this Board adopted September 10th, 1895, authorizing the said bonds and the said mortgage and also of this and the preceding resolutions of this Board, and to deliver to said Trustee therewith copies certified by him to be correct of the said several contracts of purchase.

Be it further resolved, that the President and Secretary of this Company be and are hereby authorized to make, execute and deliver any other or further orders, recitals, or statements which shall be appropriate to or required for procuring the issue and delivery of said bonds as directed by the foregoing resolutions.

Be it further resolved, that the President or Vice President and Secretary or Treasurer of this Company are hereby authorized to make, sign and deliver to the New York Guaranty and Indemnity Company orders for the certification and delivery, or either, of any bonds of this Company executed under or secured by its mortgage made to said New York Guarantee and Indemnity Company as Trustee, and to make recitals or statements proper or required for the purpose of procuring such certification and delivery, or either, under the provisions of said mortgage.

* * * * * * *

I hereby certify that I have compared the foregoing with the original minutes of the Board of Directors of The Brooklyn Union Gas Company, meeting held November

1st, 1895, and the same is a true and correct transcript therefrom.

——— ———, Assistant Secretary The Brooklyn Union Gas Company.

[fol. 2286] PLAINTIFF'S EXHIBIT 7

Extract from Minutes of Special Meeting of Board of Directors of the Brooklyn Gas Light Company held October 2nd, 1895

* * * * * * *

The President laid before the Board, a letter received from the Secretary of The Brooklyn Union Gas Company, of which the following is a copy:

Office of the Brooklyn Union Gas Company, 10 Wall Street, New York

October 1st, 1895.

Alexander E. Orr, Esq., President the Brooklyn Gas Light Co.

DEAR SIR: This Company has been organized for the purpose, among other objects, of constructing and acquiring works, and manufacturing and selling gas in the City of Brooklyn, and would like to enter into negotiations with your Company, with a view of acquiring its property, rights and franchises. A Committee of — George W. Young, President, is Chairman, has been appointed by our Board of Directors, to consider and report upon the matter, and such Committee would be glad to meet a similar Committee of your Board at any time and place that may suit the convenience of its members, to discuss the subject with a view to such action as may be found advisable.

Truly yours, Chas. E. Ball, Asst. Secretary.

After discussion on motion, duly seconded, it was voted that the President and Messrs. Campbell and Logan be and hereby are appointed a Committee to confer with the Committee of The Brooklyn Union Gas Company, referred to in the letter just read of The Brooklyn Union Gas Com-

pany under date of October 1st, 1895, upon the subject of the sale of the property, rights and franchises of this Company and the terms upon which such sale can be made, with instructions to report to this Board.

* * * * * * *

[fol. 2287] I hereby certify that I have compared the foregoing with the original minutes of the Board of Directors of The Brooklyn Gas Light Company, meeting held October 2nd, 1895, and that the same is a true and correct transcript therefrom.

——— ———, Assistant Secretary the Brooklyn Union Gas Company.

[fol. 2288] Extract from Minutes of Meeting of the Board of Directors the Brooklyn Gas Light Company held October 9th, 1895

* * * * * * *

"The Committee heretofore appointed to consider and confer in regard to the sale and conveyance of all the property, rights and franchises of this Company to The Brooklyn Union Gas Company reported and submitted to the Board an offer received by them from the Committee representing the latter Company with the recommendation that it be accepted by this Board.

The following are true copies of said offer, and the Committee's report thereon.

[fol. 2289] New York, October 7th, 1895.

To Messrs. A. E. Orr, Felix Campbell, W. J. Logan, Committee of Directors of the Brooklyn Gas Light Co.

Gentlemen: On behalf of The Brooklyn Union Gas Company the undersigned Committee hereby offers to purchase all the property of every kind, rights and franchises of The Brooklyn Gas Light Company, upon the following terms, to-wit:

1. The price to be paid therefore to be one million nine hundred and fifty thousand dollars ($1,950,000.) par value, part of a total issue of $15,000,000. in the consolidated mortgage 50 year 5% gold bonds of the purchasing Com-

pany (bearing interest from November 1st, 1895) and one million nine hundred and fifty thousand dollars ($1,950,000) par value of its capital stock.

2. The vendor company to appropriate sixty five thousand dollars ($65,000) par value of said bonds to cover the expenses of the sale, transfer and conveyance and the negotiations connected therewith, and sixty five thousand dollars ($65,000.) par value of said bonds for making improvements upon and additions to the property of the purchasing Company, all said bonds so reserved to be left with the Trustees under the Mortgage securing the same, subject to the order of the purchasing Company.

3. The remainder of said bonds, to-wit, one million eight hundred and twenty thousand dollars ($1,820,000.) par value and the said stock to be delivered to the New York Guaranty & Indemnity Company, Trustee (to be distributed pro rata among the stockholders of the vendor company upon surrendering their certificates) simultaneously with the delivery by the vendor company to the purchasing company of deeds duly conveying, transferring and assigning the said property, rights and franchises and the possession thereof; the said property to include bills receivable, cash on hand and all other assets;

4. The said property, rights and franchises to be free and clear of all liens and encumbrances, but the purchasing company to assume and provide for all current liabilities of the vendor company, and also the payment annually of an amount to be agreed upon to cover the cost and expense of maintaining the organization of the vendor company until such time as it shall be deemed advisable to dissolve same.

5. Contracts to be at once executed by both parties subject to the approval of the stockholders of the vendor company covering the foregoing points and such further details as shall be deemed advisable in form and substance satisfactory to both parties.

Yours respectfully, (Sgd.) Geo. W. Young, W. B. Dickerman, Geo. R. Turnbull, Committee Brooklyn Union Gas Co.

[fol. 2290] New York, October 9th, 1895.

To the Board of Directors of the Brooklyn Gas Light Company:

The undersigned Committee of conference on the sale of the property, rights and franchises of this Company, respectfully reports as follows:

1. That the Committee has received from the Committee representing The Brooklyn Union Gas Company an offer to purchase all the property rights and Franchises of this Company, which offer is hereto attached.

2. That this Committee recommends that the Board, subject to the approval of the stockholders, accept the said offer and authorize the Officers of the Company on its behalf to execute and deliver a contract properly embodying the terms thereof and such further details as shall be deemed advisable, and call a meeting of the stockholders to vote upon the same.

Respectfully submitted, A. E. Orr, Felix Campbell, W. J. Logan, Committee.

After full discussion on motion duly seconded it was unanimously voted as follows, to-wit:

1. That subject to the approval of the stockholders the foregoing offer be and hereby is accepted by this Company.

2. That the President and Secretary be and hereby are authorized on behalf of this Company to execute and deliver to The Brooklyn Union Gas Company a contract embodying the terms of the foregoing offer and such further provisions as to detail as shall be deemed necessary or advisable for the protection of the rights and interests of this Company, its creditors and stockholders.

3. That a meeting of the stockholders be and hereby is called to vote upon the said offer and contract, and that the President and Secretary be and hereby are authorized and directed to publish the required notice of such meeting for a day to be fixed by them and specified in the said notice.

[fol. 2291] 4. That the Secretary be and hereby is directed to communicate the action of the Board in respect to its said offer to The Brooklyn Union Gas Company.

On motion the meeting was declared adjourned to Wednesday October 16th at 3.30 P. M. for the purpose of having contract between this Company and The Brooklyn Union Gas Co. presented and approved.

* * * * * * *

I hereby certify that I have compared the above with the original minutes of the Board of Directors of The Brooklyn Gas Light Company, meeting held October 9th, 1895, and that the same is a true and correct transcript therefrom.

—— ——, Assistant Secretary the Brooklyn Union Gas Company.

[fol. 2292] Extract from Adjourned Meeting of the Board of Directors the Brooklyn Gas Light Company Held October 16th, 1895

* * * * * * *

"The President laid before the Board the contract between this Company and The Brooklyn Union Gas Company for their approval. The following is a true copy of said contract.

(Take in copy of contract.)

After full discussion on motion, duly seconded it was unanimously voted as follows, to-wit:

Whereas in the judgment of this Board the best interest of this Company and each and every stockholder thereof will be promoted by the sale to The Brooklyn Union Gas Company, of all the property, rights and franchises of this Company upon the terms set forth in the proposed contract between this Company and the said The Brooklyn Union Gas Company authorized at a recent meeting of the Board, which contract has just been read.

Resolved, that the said contract be and the same is hereby approved and the President and Secretary of the Company be and they are hereby authorized and directed to execute the same on behalf of this Company, attach thereto its corporate seal and deliver the same.

Resolved, that the Board hereby recommends to stockholders that they approve the said contract at the meeting which has been called to consider and take action thereon.

And it is further Resolved that in case the aforesaid sale shall receive the consent of stockholders as required by law, the officers of this Company be and they are hereby authorized and directed to forthwith make, execute and deliver on behalf of this Company a deed *of* deeds and all [fol. 2293] other instruments of transfer requisite or proper to carry out the sale and transfer provided for in the contract aforesaid, and also to give possession to said Brooklyn Union Gas Company of all the property, rights and franchises so transferred, upon receiving the certificate of the New York Guaranty and Indemnity Company, that there have been delivered to it for the purposes of said contract bonds and stocks of said Brooklyn Union Gas Company of the amounts stated in said contract."

* * * * * * *

I hereby certify that I have compared the foregoing with the original minutes of the Board of Directors of The Brooklyn Gas Light Company, meeting held October 16th, 1895, and that the same is a true and correct transcript therefrom.

—— ——, Assistant Secretary the Brooklyn Union Gas Company.

[fol. 2294] STATEMENT RE PLAINTIFF'S EXHIBITS 8 TO 14, INC.

Plaintiff's Exhibits 8-14, inclusive, are the same as Exhibit 7 in form for the Citizens Gas Co., Fulton Municipal Gas Co., Metropolitan Gas Co., Nassau Gas Light Co., Nassau Gas Light Co., Supplemental, Peoples' Gas Light Co., and Williamsburg Gas Light Co.

[fol. 2295] PLAINTIFF'S EXHIBIT 15

This indenture, made this fourth day of November, 1895, between The Brooklyn Gas Light Company, a corporation

organized and existing under the laws of the State of New York, party of the first part, and the Brooklyn Union Gas Company, a corporation organized and existing under the laws of the same state, party of the second part.

Whereas, the board of Directors of the party of the first part, has by resolution duly passed directed the execution of this indenture and the sale and conveyance thereby made, and the said sale and conveyance have been duly consented to by the holders of more than two thirds of the capital stock of the said party of the first part at a meeting of the stockholders thereof called and held in accordance with the law to consider said matters.

Now, therefore, this indenture witnesseth: That the said party of the first part, in consideration of one dollar and other valuable considerations paid and rendered by the party of the second part, the receipt whereof is hereby acknowledged, does hereby grant convey and release, assign, transfer and set over unto the said party of the second part, its successors and assigns and their heirs forever, all the property, real, personal and mixed of every kind whatsoever, and wheresoever situated, and all the rights, franchises, privileges and immunities of every kind of the party of the first part, whether hereinafter more particularly mentioned or not, including the following which are more particularly mentioned as aforesaid, that is to say:

"All that certain block of land in the City of Brooklyn, County of Kings and State of New York, which is bounded as follows; on the north by Marshall Street, on the east by Little Street, on the South by John Street and on the west by Hudson Avenue, together with all the right, title and interest of the party of the first part to and in the said [fol. 2296] avenue and streets in front of and adjoining the said premises (except two lots respectively bounded and described as follows: one beginning at a point on the northerly side of John Street distant two hundred (200) feet easterly from the northeasterly corner of John Street and Hudson Avenue; running thence northerly and parallel with Hudson Avenue eighty (80) feet; thence easterly and parallel with John Street twenty-five (25) feet; thence

southerly and parallel with Hudson Avenue eighty (80) feet to John Street; and thence westerly along John Street twenty-five (25) feet, to the place of beginning.—the other beginning at the corner formed by the intersection of the northerly side of John Street with the easterly side of Hudson Avenue; running thence northerly along Hudson avenue twenty-five (25) feet, then easterly and parallel with John Street seventy-five (75) feet, thence southerly and parallel with Hudson Avenue twenty-five (25) feet to John Street, and thence westerly along John Street seventy-five (75) feet to the place of beginning, it being intended to include in the foregoing description all the premises, property and rights conveyed to the said party of the first part by the following deeds, or by any other deeds or grants of property or rights within the block included by said streets or adjacent or appurtenant thereto or to any other part thereof;

Deed of Catherine Dorsey et al., dated January 25, 1882, and recorded in Liber 1451, page 115.

Deed of Henry Adair, and wife, dated October 31, 1856, and recorded in Liber 435, page 97.

Deed of Arthur Boyle and wife, dated April 27, 1880, and recorded in Liber 1388, page 288.

Deed of W. M. Ingraham, dated July 12, 1859, and recorded in Liber 509, page 415.

Deed of Nathan Gardner Howard et al., dated January 31, 1857, and recorded in Liber 450, page 110.

Deed of John Develin, Special Guardian dated April 30, 1857, and recorded in Liber 450, page 107.

Deed of Frances McNulty, dated February 20, 1857, and recorded in Liber 450, page 113.

Deed of A. P. Pentz and wife, dated September 1, 1856, [fol. 2297] and recorded in Liber 433, page 30.

Deed of Samuel Shotwell and wife, dated September 1, 1856, and recorded in Liber 433, page 58.

Deed of Thomas Farmer et al. dated May 15, 1857, and recorded in Liber 481, page 363.

Deed of Ellen Lambertson et al. dated March 5, 1857, and recorded in Liber 455, page 145.

Deed of E. S. Simmons and wife, dated July 30, 1856, and recorded in Liber 431, page 228.

Deed of Edward Butler and wife, dated September 1, 1856, and recorded in Liber 432, page 477.

Deed of Henry Kiep, dated April 11, 1874, and recorded in Liber 1154, page 284.

Deed of M. W. Cole, dated September 27, 1886, and recorded in Liber 1696, page 5.

Deed of P. Maury, dated September 1, 1856 and recorded in Liber 432, page 519.

Deed of Francis Kiernan and wife, dated June 12, 1872, and recorded in Liber 1061, page 359.

Deed of J. W. Elwell and wife, dated September 1, 1856 and recorded in Liber 453, page 326.

Deed of Margaret E. Dunlop, dated December 6, 1858, and recorded in Liber 489, page 253.

Deed of Margaret Dunlop and others, dated Feby. 17, 1857 and recorded in Liber 443, page 72.

Deed of John B. Voorhees, Referee dated Feby. 17, 1857 and recorded in Liber 443, page 70.

Deed of Patrick Gorman and Wife, dated September 1, 1856, and recorded in Liber 432, page 421.

Deed of Rose McDermot and husband, dated January 26, 1882, and recorded in Liber 1454, page 395.

Deed of M. W. Cole, dated September 27, 1886, and recorded in Liber 1696, page 3.

Deed of Hugh Hughes and wife, dated January 26, 1881, and recorded in Liber 1412, page 482.

Deed of James Nevins et al. dated October 18, 1880, and recorded in Liber 1404, page 3.

And also all that certain block of land in said City of Brooklyn, which is bounded as follows: On the north by the East River, on the east by the East River and by Little Street, on the south by Marshall Street and on the west by Hudson Avenue and the East River; together with all the right, title and interest of the party of the first part to and in the said avenue and streets in front of and adjoining said premises, and also all the right, title and in-[fol. 2298] terest of the party of the first part to and in all wharves, docks and piers and the land thereunder and to and in the waters and land under water in front of or adjoining the said premises, and also all the riparian rights, rights of wharfage, dockage and anchorage, and all rights

of access by water, and all rights to acquire lands under water, belonging to the said party of the first part in connection with said premises, or in any way appurtenant thereto or connected therewith; (except a certain strip of land on the easterly side of said block which is bounded and described as follows:

Beginning at the corner formed by the intersection of the westerly side of Little Street with the northerly side of Marshall Street; running thence westerly along the northerly side of Marshall Street fifty-two (52) feet, thence in a northeasterly direction and parallel or nearly so with the said Little Street one hundred and ninety-six (196) feet to the East River; thence southerly along said East River to the westerly side of said Little Street; and thence along said westerly side of Little Street to the point or place of beginning; it being intended to include in the foregoing description all property and rights conveyed to the party of the first part by the following deeds, or by any other deeds or grants of property or rights within the block aforesaid, or adjacent or appurtenant thereto, or to any part thereof.

Deed of Simon Driscoll and wife, dated March 21, 1852, and recorded in Liber 316, page 275.

Deed of Morris Garvey and wife dated April 27, 1852, and recorded in Liber 280, page 45.

Deed of Egbert Benson et al. dated May 1, 1852, and recorded in Liber 294, page 152.

Deed of Losee Van Nostrand et al. dated May 3, 1852, and recorded in Liber 282, page 346.

Deed of Adrian V. Cortelyou, dated July 1, 1852, and recorded in Liber 294, page 155.

Deed of Henry L. Clarke and wife, dated April 26, 1852, and recorded in Liber 278, page 237.

Deed of G. W. Coster et al. dated April 9, 1852, and recorded in Liber 282, page 345.

[fol. 2299] Deed of Hannah Taylor, dated April 5, 1852, and recorded in Liber 282, page 390.

Deed of David Taylor, et al. dated April 5, 1852, and recorded in Liber 282, page 388.

Deed of David Taylor and wife, dated April 5, 1852, and recorded in Liber 282, page 394.

Deed of Patrick Boyland and wife, dated August 1, 1854, and recorded in Liber 371, page 537.

Deed of Stephen Samson and wife, dated March 10, 1874, and recorded in Liber 1160, page 206.

Deed of W. F. Bulkley, dated April 1, 1852, and recorded in Liber 300, page 498.

Deed of C. P. Smith et al., dated November 1, 1852, and recorded in Liber 416, page 442.

Deed of G. W. Coster et al., dated April 9, 1852, and recorded in Liber 282, page 348.

Deed of Andrew K. Hay, dated June 8, 1848, and recorded in Liber 193, page 488.

And also "all those certain lots, pieces or parcels of land in said City of Brooklyn, which taken together are bounded and described as follows: Beginning at a point on the southerly side of Plymouth Street distant one hundred and fifteen (115) feet westerly from the southwesterly corner of Hudson Avenue and Plymouth Street, running thence southerly and parallel with said Hudson Avenue one hundred (100) feet; thence westerly and parallel with said Plymouth Street seventy-five (75) feet; thence southerly and again parallel with said Hudson Avenue one hundred (100) feet to Water Street; thence westerly along said Water Street one hundred and ninety-eight (198) feet and ten (10) inches more or less, to Gold Street; thence northerly along said Gold Street two hundred (200) feet more or less to Plymouth Street, and thence easterly along said Plymouth Street two hundred and sixty-nine (269) feet and two (2) inches, more or less to the point or place of beginning; together with all the right, title and interest of the said party of the first part to and in the land in the said avenue and streets in front of and adjoining said premises, it being intended to include in the aforesaid description all the property and rights conveyed to the party of the first part by the following deeds, or by any other deeds of property or [fol. 2300] rights within said boundaries or adjacent to said property or any thereof:

Deed of V. G. Hall and wife, dated April 15, 1852, and recorded in Liber 279, page 500.

Deed of S. B. Duryea, dated June 26, 1867, and recorded in Liber 773, page 542.

Deed of V. G. Hall and wife, dated March 29, 1851, and recorded in Liber 245, page 192.

Deed of R. F. Blydenburgh, dated June 2, 1851, and recorded in Liber 254, page 209.

Deed of Levi Brown and wife, dated March 9, 1852, and recorded in Liber 296, page 349.

Deed of J. S. Evans et al., dated March 1, 1854, and recorded in Liber 372, page 104.

Deed of Engebert Lott, dated February 16, 1854, and recorded in Liber 354, page 25.

Deed of Valentine T. Hall, dated April 25, 1859, and recorded in Liber 499, page 101.

And also "all those certain lots, pieces or parcels of land in said City of Brooklyn, which taken together are bounded and described as follows: Beginning at a point on the southerly side of Front Street, distant one hundred and twenty-five (125) feet easterly from the southeasterly corner of Front and Bridge Street; running thence southerly and parallel with said Bridge Street one hundred and seventy-six (176) feet and four (4) inches more or less; thence westerly and parallel with said Front Street twenty-five (25) feet; thence southerly and again parallel with said Bridge Street one hundred (100) feet to York Street; thence easterly along said York Street one hundred and seventy-two (172) feet and nine (9) inches, thence northerly and parallel with said Bridge Street one hundred (100) feet; thence easterly and parallel with said York Street seventy-five (75) feet and one inch more or less, to land now or formerly of Trustees of the Second Methodist Episcopal Church in the City of Brooklyn, thence northerly and parallel with said Bridge Street and along the last mentioned land twenty-four (24) feet more or less, and thence easterly along the same land twenty-five (25) feet; thence northerly and parallel [fol. 2301] with Gold Street one hundred and forty-seven (147) feet more or less to Front Street, and thence westerly along said Front Street two hundred and forty-six (246) feet and four (4) inches more or less to the place of beginning; together with all the right, title and interest of the party of the first part to and in the land in the aforesaid streets in front of and adjacent to said premises;" it being intended to include in the foregoing description all property and rights conveyed to said party of the first part by the

following deeds, or any other deeds of property or rights included within the boundaries aforesaid or adjacent or appurtenant to said property or any thereof:

Deed of J. M. Holder and wife, dated October 25, 1867, and recorded in Liber 785, page 450.

Deed of Rutsen Sukley et al, dated October 30, 1860, and recorded in Liber 541, page 231.

Deed of W. J. Emmett and wife, dated April 30, 1890, and recorded in Liber 1968, page 525.

Deed of Rutsen Suckley et al, dated November 13, 1860, and recorded in Liber 541, page 234.

And "also those two certain lots, pieces or parcels of land in said City of Brooklyn, which taken together are bounded and described as follows:

Beginning at a point on the southerly side of Remsen Street, distant one hundred and fifty (150) feet westerly from the southwesterly corner of Remsen Street and Court Street, running thence southerly and parallel with said Court Street one hundred (100) feet; thence westerly and parallel with said Remsen fifty (50) feet; thence northerly and again parallel with said Court Street one hundred (100) feet to Remsen Street, and thence easterly along said Remsen Street fifty (50) feet to the place of beginning; together with all the right, title and interest of the said party of the first part to and in the land in said Remsen Street in [fol. 2302] front of and adjacent to said premises; the said premises last above described being the same conveyed to the said party of the first part by deed of Edmund Blunt and others, dated May 12, 1855, and recorded May 20, 1855, in Liber 396, page 62.

All the deeds hereinbefore mentioned, whose place of record is stated are recorded in the office of the Register of Kings County in Libers of Conveyances.

And also all factories, works, retort-houses, engine-houses, purifying-houses, sheds, tanks, reservoirs, gas holders and receivers, and all other shops, office, buildings and structures, all machinery, safes, furniture, fixtures, implements, tools and contrivances; all mains, pipes and other conduits for the conveyance or transfer of gas or other matter, and all rights to lay or maintain the same, and all meters, all vehicles and animals; all products and materials;

all easements, franchises, rights, privileges and immunities; all patents, patent rights and rights and licenses under patents; all inventions and all methods and processes of manufacture, and all rights to use the same or any thereof; all accounts, choses in action, contracts and agreements and rights thereunder accrued or to accrue; all corporate stocks and all bonds, obligations and liabilities of other corporations or of persons; all claims at law or in equity; all securities, funds, deposits, credits and moneys; and all deeds, muniments of title, books and records, whether the aforesaid several matters and things relate to or are connected with the production, acquisition, sale distribution or measurement of gas or relate to or are connected with other matters.

To have and to hold the above granted premises, property, rights and franchises in fee simple, unto said party of the second part, its successors and assigns and their heirs forever.

[fol. 2303] And the said party of the first part for itself and its successors hereby covenant with the said party of the second part, and with its successors and assigns, that the said party of the first part, and its successors, and all persons deriving any estate, right, title or interest in or to the premises, property, rights or franchises hereinbefore mentioned, or any of them will at all time or times hereafter at the cost of the said party of the second part, or its successors, or assigns, make, do and execute, or cause to be made, done and executed, all such further acts, and conveyances for the better and more effectually vesting and confirming the said premises, property rights and franchises in and to the said party of the second part, or its successors or assigns forever and in fee simple as by the said party of the second part or its successors or assigns shall be reasonably required.

In witness whereof, the said party of the first part has caused its corporate seal to be hereunto affixed, attested by its Secretary and these presents to be subscribed by its President the day and year first above written.

(Signed) The Brooklyn Gas Light Co. A. E. Orr, President. Attest: Wm. L. Pettit, Secretary. (Seal.).

[fol. 2304] State of New York,
County of Kings, ss:

On this fourth day of November in the year one thousand eight hundred and ninety-five, before me Samuel K. Probasco, a Notary Public in and for the County aforesaid, duly commissioned and qualified, personally came William L. Pettit, to me known and known to me to be the Secretary of The Brookln Gas Light Company, the corporation described in the foregoing deed, and which executed said deed as party of the first part thereto, who being by me duly sworn, did depose and say that he resides in Morris Park, Long Island, that he is the Secretary of the said The Brooklyn Gas Light Company and knows the corporate seal thereof; that the seal affixed to the foregoing deed is the corporate seal of said Company and was affixed thereto by authority of the Board of Directors of said Company and that he signed his name thereto by the like authority as Secretary of said Company. And the deponent further said that he is acquainted with Alexander E. Orr, and knows him to be the President of said The Brooklyn Gas Light Company; that the signature of the said Alexander E. Orr and the name of said Company subscribed to the foregoing deed are in the genuine handwriting of the said Alexander E. Orr, and were thereto subscribed by the like authority of the said Board of Directors and in the presence of said deponent.

In witness whereof, I have hereunto set my hand and notarial seal the day and year last above written.

(Signed) Saml. K. Probasco, Notary Public, Kings Co. (Seal.)

Recorded in Register's Office, Kings Co., in Liber 2 page 529 of Conveyances in Section 1, Blocks 6, 13, 33, 55, 255, November 6th, 1895, at 50 minutes past 1 P. M.

Witness my hand and official seal.

(Signed) Granville W. Harman, Register.

[fol. 2305] Statement re Exhibits 16-22, Inc.

Plaintiff's Exhibits 16-22 inclusive are Deeds Similar to Exhibit 15 for the various Constituents.

[fol. 2306] PLAINTIFF'S EXHIBIT 62

Memorandum of Distribution of Stock and Bonds of the Brooklyn Union Gas Company November, 1895

Capital Stock, $15,000,000. First Mortgage Bonds, $15,000,000

Company	Total bonds allotted	Bonds reserved for betterments, extensions, etc.	Bonds reserved for retirement of outstanding bonds, etc.	Bonds reserved for commissions and expenses of transfer of property, etc.	Bonds distributed to stockholders of vendor companies	Capital stock distributed to stockholders of vendor companies
Brooklyn	$1,950,000	$65,000	.....	$65,000	$1,820,000	$1,950,000
Citizens	1,500,000	50,000	$1,250,000	50,000	150,000	1,500,000
Peoples	900,000	30,000	500,000	30,000	340,000	900,000
Fulton Municipal	2,850,000	95,000	300,000	95,000	2,360,000	2,850,000
W'msburgh	3,150,000	105,000	1,000,000	105,000	1,940,000	3,150,000
Nassau	3,150,000	105,000	600,000	105,000	2,340,000	3,150,000
Metropol.	1,500,000	50,000	250,000	50,000	1,150,000	1,500,000
Totals	15,000,000	500,000	3,900,000	500,000	10,100,000	15,000,000

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Memorandum of Distribution of Stock—Continued

The $3,900,000 of bonds reserved are to retire or held as equivalent for the following:

$750,000	Citizens' Company Bonds	Outstanding Dec., 1923		$264,000
500,000	Union Company Bonds	Retired: Paid in cash Jan., 1920		38,000
400,000	People's Company Bonds	Retired	May 1, 1897	400,000
100,000	" " Debentures	"	Apr. 1, 1900	100,000
300,000	Fulton Company Bonds	"	Jul. 1, 1900	300,000
1,000,000	Williamsburg Company Bonds	"	Apr. 1, 1900	1,000,000
600,000	Nassau Company Certificates of Indebtedness	"	Dec., 1895	600,000
250,000	Metropolitan Company Bonds	"	Apr. 1, 1898	250,000
$3,900,000				

[fol. 2307] PLAINTIFF'S EXHIBIT 63

STATE OF NEW YORK:

PUBLIC SERVICE COMMISSION FOR THE FIRST DISTRICT

Final Order No. 640

In the Matter of the Application of THE BROOKLYN UNION GAS COMPANY for the Consent and Approval of the Commission to the Issue of $3,000,000.00 par Value of Its Capital Stock for the Purpose of Converting Convertible Debentures of said Company Heretofore Issued.

Under Hearing Order Number 627

Whereas, The Brooklyn Union Gas Company filed with the Public Service Commission for the First District its petition verified July 6, 1908, praying the consent and approval of the Commission to the issuance by it of 30,000 shares, being $3,000,000.00 par value of the capital stock of the said company; and

Whereas, the purpose for which said stock is proposed to be issued is the converting and refunding of obligations of said Brooklyn Union Gas Company, consisting of $3,000,000.00 face value of debentures of the said Brooklyn Union Gas Company, issued and bearing date March 1, 1904, at six per cent, interest, coupons payable March 1st and September 1st, and convertible upon any interest day into stock of said company upon the basis of one share of stock for each $100.00 of par value of such debentures; and

Whereas, the Public Service Commission for the First District did thereupon by its order number 627, adopted July 7, 1908, direct the said petition to be heard on Monday, July 13, 1908, at 10:30 o'clock in the forenoon, and that the petitioner published a notice of said application and of the time and place of said hearing in the manner and as provided in said order, and the petitioner did thereupon cause [fol. 2308] notice of said application and of the time and place of said hearing to be published in pursuance of said order and did file proof thereof with the Secretary of the said Commission before the opening of said hearing, and the matter coming on to be heard on said July 13, 1908, at

10:30 o'clock in the forenoon, Mr. Commissioner Eustis presiding upon said hearing, and said petitioner having duly appeared by William N. Dykman, Esq., as Counsel, and no one appearing in opposition, and the petitioner having submitted proofs in support of said application, and the Commission having taken testimony and having examined witnesses and records of the petitioner, and being fully advised in the premises;

It being now the opinion of the Commission that the use of the capital to be secured by the issue of said stock by the said Brooklyn Union Gas Company is reasonable required for the discharge or lawful refunding of its obligations, it is hereby

Ordered, that the Public Service Commission for the First District does hereby authorize, subject to the conditions hereinafter set forth, the issue by the petitioner, Brooklyn Union Gas Company of 30,000 shares, being $3,000,000.00 face value of stock of the said Brooklyn Union Gas Company, said issue to be upon the conditions and for the purposes following and not otherwise, to-wit:

The said shares of stock shall be issued only upon September 1, 1908, or March 1, 1909, and for each such share so issued of said stock of the par value of $100.00 there shall be delivered to and received by said Brooklyn Union Gas Company $100.00 par value of the said debentures of the said company with unmatured coupons, if any.

And it is further

Ordered, that this order shall take effect on the 17th day of July, 1908, and shall continue in force until and including March 1, 1919.

[fol. 2309] And it is further

Ordered, that within five (5) days after the service upon the said Brooklyn Union Gas Company of this order the said company notify the Public Service Commission for the First District whether the terms of this order are accepted and will be obeyed.

State of New York,
County of New York, ss:

I, Travis H. Whitney, Secretary of the Public Service Commission for the First District, do hereby certify, that I have compared the above with the Original Order adopted

by said Commission July 17, 1908, and that it is a correct transcript therefrom and of the whole of the original.

In testimony whereof, I have hereunto subscribed my hand and affixed the seal of the Commission this 17th day of July, 1908.

Travis H. Whitney, Secretary. (Seal.)

[fol. 2310] State of New York,
County of New York, ss:

I, Frank N. Robinson, duly designated by James B. Walker, Secretary of the Public Service Commission for the First District, to perform the duties of such Secretary in his absence, and the said James B. Walker being now absent, do hereby certify, as Acting Secretary of the Public Service Commission for the First District, and pursuant to such designation, that I have compared the above with the original adopted by said Commission on July 17, 1908 and that it is a correct transcript therefrom and of the whole of the original.

In testimony whereof, I have hereunto subscribed my hand and affixed the seal of the Commission this 21st day of August, 1920.

Frank N. Robinson, Acting Secretary. (Seal.)

[fol. 2311] Plaintiff's Exhibit 64

Before the Public Service Commission for the First District, No. 49 Lafayette Street, Borough of Manhattan, City of New York, 9th Day of September, 1919

Present: Hon. Edward J. Glennon, Deputy and Acting Commissioner.

Case No. 2365

In the Matter of the Application of The Brooklyn Union Gas Company, Under Section 69 of the Public Service Commissions Law, for an Order Authorizing the Issuance of Two Million Eight Hundred Thousand Dollars ($2,800,000) Debenture Bonds.

Order Authorizing Issuance of $2,000,000 Face Value of Convertible Debenture Bonds

Section 1. Application having been made to the Public Service Commission for the First District by The Brook-

lyn Union Gas Company under provisions of the Public Service Commission Law for the consent of the Commission to the issuance by said Company of debenture bonds to the amount of Two million eight hundred thousand dollars ($2,800,000.) face value, of which $2,000,000. should be convertible into stock of said Company and the remaining $800,000. should be debenture bonds without the privilege of conversion; and a hearing having been duly held before the Commission upon said application in so far as the same relates to the proposed issuance of convertible bonds; and it being now the opinion of the Commission,

(1) That the money to be procured by the issue of convertible debenture bonds of said The Brooklyn Union Gas Company to the amount of Two million dollars ($2,000,000.) face value, payable at a period of more than twelve (12) months after the date thereof is necessary to and reasonably required by said Company for the reimbursement of its treasury for expenditures made for the ac-[fol. 2312] quisition of property and the construction, completion, extension and improvement of its plant and distribution system, and particularly for the purposes which are hereinafter stated in this order, and

(2) That said purposes are not in whole or in part reasonably chargeable to operating expenses or to income.

Section 2. It is ordered that the Public Service Commission for the First District does hereby authorize the issuance by said The Brooklyn Union Gas Company of Two million dollars ($2,000,000.) face value of principal of convertible debenture bonds of said Company, dated the 1st day of November, 1919, maturing the first day of November, 1929, and to bear interest at not to exceed seven per cent. (7%) per annum payable semi-annually, convertible at the option of the holder into the capital stock of the Brooklyn Union Gas Company on the Basis of one share of stock of the par value of One hundred dollars ($100.) for each One hundred dollars ($100.) par value of debentures, on and after five years from the date thereof on any date when a coupon falls due, if surrendered with unmatured coupons attached.

Section 3. It is ordered that the said issue of convertible debenture bonds is authorized upon the conditions following, and not otherwise, to-wit:

First. That the said bonds shall be sold by said The Brooklyn Union Gas Company so as to net the said Company not less than one hundred per cent. (100%) of the par or face value of the principal thereof besides interest accrued thereon and that the proceeds thereof shall be applied only to the following purposes, that is to say:

(1) Toward reimbursement of moneys expended from income or other moneys in the Treasury of the said corporation not secured by or obtained from the issue of stocks, bonds, notes or other evidence of indebtedness of said corporation and applied to construction completion extension or improvement of the facilities of the said Company during the period from February 1, 1914 to January 31, 1919, not less than $2,000,000.

[fol. 2313] Second. That the said The Brooklyn Union Gas Company shall keep separate, true and accurate accounts showing the receipt and application in detail of the proceeds of the sale or disposal of the convertible debenture bonds hereby authorized to be issued, and on or before the 10th day of each month the company shall make verified reports to the Commission stating the sale of said debentures during the previous month, the terms and conditions of sale, the moneys realized therefrom and the use and application of such moneys; and said accounts, vouchers and records shall be open to audit and may be audited from time to time by accountants and examiners designated for the purpose by the Commission.

Third. That the authority hereby given to issue such convertible debenture bonds shall apply only to bonds issued by said company on or before the 31st day of December, 1919.

Section 4. It is further ordered that this order take effect on the 9th day of September, 1919, and except as provided in the Third subdivision of Section 3 limiting the duration of the authority to issue such bonds herein granted, continue in force until otherwise ordered by the

Commission; and that within ten (10) days after service upon it of a copy of this Order, said The Brooklyn Union Gas Company notify the Commission whether the terms of this order are acceptable and will be obeyed.

By the Commission.

James B. Walker, Secretary. (L. S.)

[fol. 2314] State of New York,
County of New York, ss:

I, Frank N. Robinson, duly designated by James B. Walker, Secretary of the Public Service Commission for the First District, to perform the duties of such Secretary in his absence, and the said James B. Walker being now absent, do hereby certify, as Acting Secretary of the Public Service Commission for the First District, and pursuant to such designation, that I have compared the above with the original adopted by said Commission on September 9, 1919 and that it is a correct transcript therefrom and of the whole of the original.

In testimony whereof, I have hereunto subscribed my hand and affixed the seal of the Commission this 21st day of August, 1920.

Frank N. Robinson, Acting Secretary. (Seal.)

[fol. 2315] Plaintiff's Exhibit 65

Before the Public Service Commission for the First District, No. 49 Lafayette Street, Borough of Manhattan, City of New York, 13th Day of February, 1920

Present: Hon. Alfred M. Barret, Deputy and Acting Commissioner.

Case No. 2443

In the Matter of the Application of The Brooklyn Union Gas Company for Authority to Issue $2,000,000 of Stock

Order Granting Application

Section 1. Application having been made to the Public Service Commission for the First District by The Brooklyn Union Gas Company, by petition dated and verified October

17, 1919, under provisions of the Public Service Commission's Law, for the consent of the Commission to the issuance by said company of its common capital stock to the amount of two million dollars ($2,000,000) par value; and the Commission having adopted a resolution on the 19th day of December, 1919, directing that said application be heard on the 29th day of December, 1919, and that the petitioner published a notice of the time, place and purpose of said hearing in the manner and as provided in the said resolution, and file- proof of such publication with the Secretary of the Commission on or before the opening of said hearing; and such notice having been duly published, and proof of such publication having been duly filed, as required by the Commission; and a hearing having been duly held upon said application before the Commission, pursuant to said resolution and notice, Honorable Alfred M. Barret, Deputy Commissioner, presiding, Messrs. Cullen & Dykman, by Edward J. Crummey, Esq., of counsel, appearing for the petitioner, and no one appearing in opposition to said application; and it appearing to the Commission that the [fol. 2315] authorized capital stock of the said The Brooklyn Union Gas Company has been duly increased from Fifteen Million Dollars ($15,000,000) to Twenty Million Dollars ($20,000,000) of which Eighteen Million Dollars ($18,000,000) par value have been issued and are outstanding; and it being now the opinion of the Commission

(1) That the money to be procured by a further issue of stock is reasonably required for the conversion, discharge or lawful refunding of its obligations, and particularly for the purposes which are hereinafter stated in this order, and

(2) That said purposes are not inwhole or in part reasonably chargeable to operating expenses or to income:

Section 2. It is ordered, that The Brooklyn Union Gas Company be and hereby is authorized to issue its capital stock to the amount of Two Million Dollars ($2,000,000) par value; that all the stock hereby authorized shall be common stock of said Company to be issued only for the purpose of converting or retiring Two Million Dollars ($2,000,000) convertible debenture bonds of said Company bearing date the first day of November, 1919, the issuance of which bonds

was authorized by an order of this Commission dated September 9, 1919, in Case No. 2365.

Section 3. It is ordered, that said issue of stock is authorized upon the conditions following and not otherwise, to wit:

First. That none of said stock shall be issued prior to the first day of November, 1924.

Second. That none of said stock shall be issued except for the purpose of converting or retiring Two Million Dollars ($2,000,000) face value of principal of convertible debenture bonds of said Company, dated the first day of November, 1919, maturing the first day of November, 1929, with interest payable semi-annually convertible at the option of the holder into the capital stock of said Company on the basis of one share of stock of the par value of One Hundred Dollar ($100) for each One Hundred Dollars ($100) par value of debentures, on and after five years from the date thereof, on any date when a coupon falls due, if surrendered with unmatured coupons attached, which issue of [fol. 2317] debenture bonds was authorized by order of this Commission dated September, 9, 1919 Case No. 2365.

Third. That none of said stock issued by said Company for the purpose of converting said debenture bonds, shall be issued except upon the basis of one share of stock of the par value of One Hundred Dollars ($100) for each One Hundred Dollars ($100) par value of debentures, on and after five years from date of said debentures, if surrendered with unmatured coupons attached.

Fourth. That if any of said stock shall not be issued for the purpose of converting the debenture bonds hereinbefore specified the stock so remaining unissued shall not be issued except for money, at not less than par, and that the proceeds thereof shall be applied only to the discharge or refunding of the aforesaid debenture bonds of said Company not theretofore converted, upon the basis of One Hundred Dollars ($100) cash for each One Hundred Dollars face value of said debentures.

Fifth. That said Company shall keep separate, true and accurate accounts showing the receipt and application in

detail of the proceeds of the sale or disposal of the stock hereby authorized to be issued, and on or before the tenth day of each month subsequent to the Month of November, 1924 said Company shall make verified reports to the Commission stating the sale or disposal of said stock, during the previous month, the terms and conditions of such sale or disposal, the moneys or securities realized therefrom, and the use and application and disposition of such moneys or securities; and said accounts, vouchers and records shall be open to audit and may be audited from time to time by accountants and examiners designated for the purpose by the Commission.

Sixth. That the authority hereby given to issue such stock shall apply only to stock issued by the said Company on and after November 1, 1924 and on or before December 31, 1929.

[fol. 2318] February, 1920, and except as provided in the Sixth paragraph of Section 3 limiting the duration of the authority to issue such stock herein granted, continue in force until otherwise ordered by the Commission, and that within ten days after service upon it of a copy of this order said Company notify the Commission whether the terms of this order are accepted and will be obeyed.

By the Commission, Frank N. Robinson, Acting Secretary. (Seal.)

State of New York,
County of New York, ss:

I, Frank N. Robinson, duly designated by James B. Walker, Secretary of the Public Service Commission for the First District, to perform the duties of such Secretary in his absence, and the said James B. Walker being now absent, do hereby certify, as Acting Secretary of the Public Service Commission for the First District, and pursuant to such designation, that I have compared the above with the original adopted by said Commission on February 13, 1920, and that it is a correct transcript therefrom and of the whole of the original.

In testimony whereof, I have hereunto subscribed my hand and affixed the seal of the Commission this 14th day of February, 1920.

Frank N. Robinson Acting Secretary.

[fol. 2319] State of New York,
County of New York, ss:

I, Frank N. Robinson, duly designated by James B. Walker, Secretary of the Public Service Commission for the First District, to perform the duties of such Secretary in his absence, and the said James B. Walker being now absent, do hereby certify, as Acting Secretary of the Public Commission for the First District, and pursuant to such designation, that I have compared the above with the original adopted by said Commission on February 13, 1920 and that it is a correct transcript therefrom and of the whole of the original.

In testimony whereof, I have hereunto subscribed my hand and affixed the seal of the Commission this 21st day of August, 1920.

Frank N. Robinson, Acting Secretary. (Seal.)

[fol. 2320] Plaintiff's Exhibit 66

Before the Public Service Commission of the State of New York for the First District, No. 49 Lafayette Street, Borough of Manhattan, City of New York, 21st day of September, 1920.

Present: Hon. Morgan T. Donnelly, Deputy and Acting Commissioner.

Case No. 2504

In the Matter of the Application of The Brooklyn Union Gas Company, under Section 69 of the Public Service Commissions Law, for an Order Authorizing the Issuance of Thirty-eight Thousand Dollars ($38,000) of Mortgage Bonds under Its First Consolidated Mortgage.

Order Granting Application

Section I. Application having been made to the Public Service Commission for the First District by The Brooklyn Union Gas Company by petition verified June 2, 1920, under provisions of the Public Service Commissions Law, for

the consent of the Commission to the issuance by said Company of its bonds to the amount of Thirty-eight Thousand Dollars ($38,000) face value, said bonds to be payable on the first day of May, 1945, to bear interest at the rate of five per cent. per annum and secured by said company's First Consolidated Mortgage dated September 16, 1895, the proceeds of said bonds to be used by said company for the purpose of reimbursing its treasury in the amount of Thirty-eight Thousand Dollars ($38,000) alleged to have been paid out of income or other moneys in its treasury not secured or obtained from the issue of stocks, bonds, notes or other evidence of indebtedness, for the discharge of certain of its obligations which became due on January 1, 1920; and a hearing having been duly had upon said application before the Commission, Honorable Morgan T. Donnelly, Deputy Commissioner, presiding, Messrs. Cullen [fol. 2321] and Dykman, by Edward J. Crummey, Esq., of counsel, appearing for the petitioner, and Honorable John P. O'Brien, Corporation Counsel, Judson Hyatt, Esq., Assistant Corporation Counsel, appearing for The City of New York, and no one appearing in opposition to said application; and it being now the opinion of the commission

(1) That the money to be procured by the issue of said bonds of said The Brooklyn Union Gas Company to the amount of Thirty-eight Thousand Dollars ($38,000) face value, payable at a period of more than twelve months after the date thereof, is necessary to and reasonably required by said company for the reimbursement of moneys actually expended from income or from other moneys in the treasury of said company not secured by or obtained from the issue of stocks, bonds, notes or other evidence of indebtedness, for the discharge of certain of its obligations which became due on January 1, 1920, and particularly for the purposes which are hereinafter stated in this order; and

(2) That said purposes are not in whole or in part reasonably chargeable to operating expenses or to income.

Section II. It is ordered that the Public Service Commission for the First District does hereby authorize the issue by said The Brooklyn Union Gas Company of Thirty-eight Thousand Dallars ($38,000) face value of principal

of bonds of said The Brooklyn Union Gas Company, said bonds to be payable on the first day of May, 1945 and to bear interest at the rate of five per cent per annum under and in pursuance of the terms of the First Consolidated Mortgage heretofore and on the 16th day of September, 1895 made and excepted by said The Brooklyn Union Gas Company to the New York Guaranty and Indemnity Company as Trustee.

Section III. It is ordered that said issue of bonds by said The Brooklyn Union Gas Company is authorized upon the conditions following and not otherwise, to wit:

First. That the said The Brooklyn Union Gas Company shall sell the said bonds hereby authorized so as to net the said company not less than one hundred per cent (100%) of the par or face value of the principal thereof, besides interest accrued thereon, and the proceeds thereof shall be [fol. 2322] applied only to the following purposes, that is to say:

(1) For the reimbursement of the treasury of said The Brooklyn Union Gas Company for moneys expended from income or other moneys in its treasury not secured or obtained from the issue of stocks, bonds, notes or other evidence of indebtedness, for the discharge of certain of its obligations, viz.: $38,000 of First Consolidated five per cent. Mortgage Bonds of the Union Gas Light Company, dated November 1, 1889, and maturing January 1, 1920, issued under the mortgage of said Union Gas Light Company to the Central Trust Company of New York, $38,000.

Second. That said the Brooklyn Union Gas Company shall keep separate, true and accurate accounts showing the receipt and application in detail of the proceeds of the sale or disposal of the bonds hereby authorized to be issued, and on or before the 20th day of each month the company shall make verified reports to the Commission stating the sale or sales of said bonds during the previous month, the terms and conditions of sale, the moneys realized therefrom, and the use and application of such moneys; and the said accounts, vouchers and records shall be open to audit and may be audited from time to time by accountants and examiners designated for such purpose by the Commission.

Third. That the authority hereby given to issue bonds by The Brooklyn Union Gas Company shall apply only to bonds issued by said company on or before December 31, 1920.

Section IV. Further ordered that this order take effect forthwith and except as provided in Subdivision Third of Section III limiting the duration of the authority to issue bonds herein granted, continue in force until otherwise ordered by the Commission, and that within ten days after the service upon it of a copy of this order said The Brooklyn Union Gas Company notify the Commission in writing whether the terms of this order are adopted and will be obeyed.

By the Commission.

James B. Walker, Secretary. (L. S.)

State of New York,
County of New York, ss:

I, James B. Walker, Secretary of the Public Service Commission for the First District, do hereby certify, that I have compared the above with the original approved by said Commission on September 21, 1920 and that it is a correct transcript therefrom and of the whole of the original.

In Testimony Whereof, I have hereunto subscribed my *my* hand and affixed the seal of the Commission, this 21 day of September, 1920.

(Sgd.) James B. Walker.

[fol. 2323] Plaintiff's Exhibit 67

At a Session of the Public Service Commission Held in the City of Albany on the 10th Day of May, 1922

Present: William A. Prendergast, Chairman; William R. Pooley, Charles Van Voorhis, Oliver C. Semple, Charles C. Blakeslee, Commissioners.

Case No. 309

In the Matter of the Application of The Brooklyn Union Gas Company, Pursuant to Section 69 of the Public Service Commission Law, for an Order Authorizing the Issuance of $6,000,000 Aggregate Principal amount of First Lien & Refunding Mortgage Gold Bonds and $5,579,000 Aggregate Principal Amount of Convertible debenture Bonds and the Issuance of a Similar Amount of Capital Stock to Meet the Conversion of the Convertible Debenture Bonds, for the Purposes Therein Specified; and Pursuant to Section 70 of the Public Service Commission Law for the Permission and Approval of the Commission to Acquire the First Mortgage Gold Bonds of the Newtown Gas Company, the Flatbush Gas Company, the Jamaica Gas Light Company, and the Woodhaven Gas Light Company.

Order Authorizing Execution of Mortgage and Issuance Thereunder of $6,000,000 of Bonds, Issuance of $5,579,000 of Convertible Debenture Bonds, and a like Amount of Capital Stock, etc.

Section 1. Application having been made to the Commission by The Brooklyn Union Gas Company by its petition verified September 19, 1921, as amended by supplemental petitions verified April 22, 1922, and April 28, 1922, under the provisions of the Public Service Commission Law for the consent of the Commission to the execution and issuance by said company of a first lien and refunding mortgage to The National City Bank of New York as trustee; and it appearing to the Commission that such consent should be given subject to the condition that the owners of capital stock of said company to an amount equal to that required by the statute shall consent to the issuance of said mort- [fol. 2324] gage in the manner prescribed by law;

Section 2. It is ordered that the Public Service Commission subject to the conditions hereinafter contained does hereby consent to the issuance and execution by the said Brooklyn Union Gas Company unto The National City Bank of New York as trustee, of a first lien and refunding mort-

gage dated May 1, 1922, securing the payment of two million dollars ($2,000,000) principal amount of ten-year 7% debenture bonds, dated November 1, 1919, and convertible at par into the capital stock of said company and likewise securing the payment of all bonds to be issued in series from time to time under said mortgage, irrespective of the time of issue. The form of such mortgage submitted by The Brooklyn Union Gas Company to the Commission is hereby approved and ordered filed and properly identified by a reference thereon to the resolution under the authority of which this order is issued. Said company, however, shall have no right or authority to issue any bonds pursuant to the terms of said mortgage except as may be herein or hereafter authorized by the Commission.

Section 3. Application having also been made to the Public Service Commission by the Brooklyn Union Gas Company under Section 69 of the Public Service Commission Law for the consent of the Commission to the issuance by said company of Series A bonds under said mortgage to the face amount of six million dollars ($6,000,000), said bonds to be dated May 1, 1922, and to be payable on the first day of May, 1947, and to bear interest at the rate of 6 per cent per annum, payable semi-annually on May 1st and November 1st each year; and it being now the opinion of the Commission.

(1) That the money to be procured by the issue of said bonds of The Brooklyn Union Gas Company to the face amount of six million dollars ($6,000,000), payable at a [fol. 2325] period of more than twelve (12) months after the date thereof is necessary to and reasonably required by said company for the acquisition of property and the discharge of its obligations, and particularly for the purposes hereinafter stated, and

(2) That except as to the following specified amounts of said bonds authorized to be issued hereafter to procure money for the purposes following, to wit: $300,000 or so much thereof as may be necessary to pay expenses of sale and to make up discount, said purposes are not in whole or in part reasonably chargeable to operating expenses or to income;

Section 4. It is ordered that the Public Service Commission does hereby authorize the issuance by The Brooklyn Union Gas Company of six million dollars ($6,000,000) face amount of the principal of Series A of its first lien and refunding mortgage gold bonds, dated as of May 1, 1922, maturing May 1, 1947, and bearing interest at 6 per cent per annum, payable semi-annually on May 1st and November 1st each year, under and pursuant to the terms of the mortgage hereinbefore approved to be made and executed by said The Brooklyn Union Gas Company to The National City Bank of New York as trustee; and

Section 5. It is ordered that the said issue of bonds is authorized upon the conditions following and not otherwise, to wit:

First That The Brooklyn Union Gas Company file with this Commission proof of the consent of the holders of not less than two-thirds of its capital stock to the execution of the said mortgage and the issuance of said mortgage bonds.

[fol. 2326] Second. That The Brooklyn Union Gas Company shall sell the said bonds hereby authorized so as to net the said company not less than ninety-five (95) per cent of the face value of the principal thereof besides interest accrued thereon, and that the proceeds thereof shall be applied only to the following purposes, that is to say:

(1) For the acquisition of property described as follows:

First mortgage bonds of The Flatbush Gas Company, at par	$2,865,000
First mortgage bonds of The Newtown Gas Company, at par	1,695,000
First mortgage bonds of The Jamaica Gas Lt. Co., at par	342,000
First mortgage bonds of The Woodhaven Gas Lt. Co., at par	320,000
	$5,222,000

(2) Toward the discharge of obligations of the company incurred for the acquisition of property, or the construction, completion, extension or improvement of the facilities, to wit: $1,500,000 of its notes held by the National City Bank of New York	478,000
(3) For expenses of sale of bonds authorized and to make up the discount or deficiency, if any, in the amount realized from the sale to net not less than ninety-five (95%) per cent. of the amount of bonds sold for the purposes specified in sub-divisions 1 and 2 hereof, not exceeding the sum of	300,000
	$6,000,000

Third. That all discounts, commissions and expenses in connection with the approval, issuance and sale of the bonds hereinbefore authorized to be issued, not to exceed three hundred thousand dollars ($300,000), shall be amortized [fol. 2327] prior to the maturity of such bonds through uniform charges to the income account Amortization of Debt Discount and Expense, prescribed in the Uniform System of Accounts for Gas Corporations.

Fourth. That none of the bonds hereby authorized shall be hypothecated or pledged as collateral security by The Brooklyn Union Gas Company unless such pledge or hypothecation shall have been expressly approved and authorized by this Commission.

Fifth. That a duplicate original of the mortgage consented to and authorized as aforesaid, upon execution thereof be filed by the petitioner with the Secretary of this Commission.

Sixth. That the authority hereby given to issue such bonds shall apply only to bonds issued by the said company on or before the 31st day of December, 1922.

Section 6. Application also having been made by The Brooklyn Union Gas Company for the consent of the Commission to the issuance by said Company of debenture bonds convertible into capital stock to the amount of five

million, five hundred seventy-nine thousand dollars ($5,579,000) face value, to be payable on the first day of May, 1932, and to bear interest at a rate not to exceed seven (7) per cent per annum, of which amount six hundred and fifty thousand ($650,000) face value is to be issued in lieu of a like amount of non-convertible debenture bonds authorized by order of the Public Service Commission for the First District dated April 25, 1921, in its Case No. 2365; and it being now the opinion of the Commission

(1) That the money to be procured by the issue of said bonds of the said The Brooklyn Union Gas Company to the face amount of five million five hundred seventy-nine thousand ($5,579,000), payable at a period of more twelve (12) months after the date thereof is necessary to and reasonably required by said Company for the discharge of its obligations or the reimbursement of moneys expended from [fol. 2328] income or such other moneys in the treasury within the ten (10) years preceding the filing of this application, and particularly for the purposes which are hereinafter stated, and

(2) That said purposes are not in whole or in part reasonably chargeable to operating expenses or to income;

Section 7. It is ordered that the Public Service Commission does hereby authorize the issuance by The Brooklyn Union Gas Company of five million five hundred seventy-nine thousand dollars ($5,579,000) face amount of principal of its debenture bonds, dated as of May 1, 1922, maturing May 1, 1932, bearing interest at the rate of seven (7) per cent annum, payable annually, and the principal thereof to be convertible into the capital stock of said company at par at the option of the holders at any time on and after November 1, 1924 and prior to May 1, 1932, the issue of which stock for such purpose is hereby authorized by this Commission.

Section 8. It is ordered that the said issue of bonds is authorized upon the conditions following and not otherwise, to wit:

First. That The Brooklyn Union Gas Company file with this Commission proof of the consent of the owners of the capital stock to an amount equal to that required by law

to the aforesaid convertible debenture bonds and capital stock.

Second. That The Brooklyn Union Gas Company shall sell the aforesaid debenture bonds so as to net the said company not less than par or face value besides interest accrued thereon, and that the proceeds thereof shall be applied only for the following purposes, that is to say:

(1) Toward the discharge of obligations of the company incurred for the acquisition of property, for construction, completion, extension or improvement of its facilities, plant or distributing system:		
[fol. 2329] Notes to Standard Oil Company	$600,000	
Notes to Bartlett Hayward and Company	455,000	
Balance of notes held by National City Bank of New York	1,022,000	
		$2,077,000
(2) For the reimbursement of moneys expended from income or any other moneys in the treasury not secured or obtained from the issuance of stocks, bonds, notes or other evidences of indebtedness, for the acquisition of property, or the construction, completion, extension or improvement of its facilities, plant or distributing system, within the ten years prior to the filing of the application		3,502,000
		$5,579,000

Section 9. It is ordered that the said company shall keep separate, true and accurate accounts, showing the receipt and application in detail of the proceeds of the sale or disposal of the bonds hereby authorized to be issued, and on or before the 30th day of each month the company shall make verified reports to the Commission, stating the sale or sales of said bonds during the previous month, the names of purchasers thereof, the terms and conditions of sale, the

moneys realized therefrom, and the use and application of such moneys; the said accounts, vouchers and records shall be open to audit and may be audited from time to time by accountants and examiners designated for such purposes by the Commission.

Section 10. Said The Brooklyn Union Gas Company having also made application pursuant to Section 70 of the Public Service Commission Law for the consent of the Commission to the pledging to The National City Bank of New York of the shares of capital stock which it owns in the following named companies,

[fol. 2330] It is ordered that the Public Service Commission does hereby consent to the pledging with The National City Bank of New York as trustee, subject to the terms and conditions of the mortgage hereinbefore authorized, of the shares of capital stock of the following named companies owned by The Brooklyn Union Gas Company:

	Shares	Par value
The Flatbush Gas Company	4,000	$50 each.
The Newtown Gas Company	600	100 do.
Richmond Hill and Queens County Gas Light Company	10,000	25 do.
The Jamaica Gas Light Company	2,000	100 do.
The Woodhaven Gas Light Company	200	100 do.

Section 11. It is ordered that the consent given on the 25th day of April, 1921, by the Public Service Commission for the First District by its order in Case No. 2365, to the issuance by The Brooklyn Union Gas Company of six hundred fifty thousand dollars ($650,000) face value of non-convertible debenture bonds to be dated as of May 1, 1921, and maturing May 1, 1931, which bonds have never been issued, be and hereby is abrogated.

Section 12. It is ordered that this order take effect on the filing of the necessary consent of the stockholders, under the law, to the making and delivery of a mortgage, for the issuance of mortgage bonds, debenture bonds and for the issue and increase of capital stock, and except as provided in the sixth sub-division of Section 5 limiting the duration of the authority to issue such bonds herein granted, con-

tinue in force until otherwise ordered by the Commission, and that within fifteen (15) days after service upon it of a copy of this order said company notify this Commission whether the terms of this order are accepted and will be obeyed.

By the Commission.

(Signed) Francis E. Roberts, Secretary. (Seal.)

[fol. 2331] State of New York, ss:

Public Service Commission

I have compared the preceding copy with the original order of this Commission dated May 10, 1922, in the matter of the application of The Brooklyn Union Gas Company pursuant to Section 69 of the Public Service Commission Law for an order authorizing the issuance of $6,000,000 aggregate principal amount of First Lien & Refunding Mortgage Gold Bonds and $5,579,000 aggregate principal amount of convertible debenture bonds and the issuance of a similar amount of capital stock to meet the conversion of the convertible debenture bonds, for the purposes therein specified; and pursuant to Section 70 of the Public Service Commission Law for the permission and approval of the Commission to acquire the First Mortgage Gold Bonds of The Newtown Gas Company, The Flatbush Gas Company, The Jamaica Gas Light Company and the Woodhaven Gas Light Company on file in this office, and I do hereby certify the same to be a correct transcript therefrom and of the whole thereof.

Witness my hand and the seal of the Public Service Commission, at the City of Albany this tenth day of May one thousand nine hundred and twenty-two.

(Signed) Francis E. Roberts, Secretary.

[fol. 2332] PLAINTIFF'S EXHIBIT NO. 68

STATE OF NEW YORK:

PUBLIC SERVICE COMMISSION

At a Session of the Public Service Commission Held in the City of New York, on the 30th Day of August, 1922

Present: Hon. William A. Prendergast, Chairman: Hon. William R. Pooley, Hon. Charles Van Voorhis, Hon. Oliver C. Semple, Hon. Charles G. Blakeslee, Commissioners.

(Case No. 79)

Matter of Gas Rates in the CITY OF NEW YORK AND SUBURBAN TERRITORY

(Case No. 79-L)

Matter of Rates for Gas of THE BROOKLYN UNION GAS COMPANY

(Case No. 79-F)

Matter of THE NEWTOWN GAS COMPANY

(Case No. 79-O)

Matter of THE FLATBUSH GAS COMPANY

(Case No. 79-U)

Matter of THE WOODHAVEN GAS LIGHT COMPANY

(Case No. 79-R)

Matter of THE JAMAICA GAS LIGHT COMPANY

(Case No. 79-V)

Matter of The Richmond Hill and Queens County Gas Light Company

Hearings in New York City

Order as to Brooklyn Union Gas Company et al.

[fol. 2333] Hearings having been duly had in the above proceedings concerning the rates, charges and classifications of service of the various gas corporations in the City of New York and suburban territory including The Brooklyn Union Gas Company, The Newtown Gas Company, The Flatbush Gas Company, The Woodhaven Gas Light Company, The Jamaica Gas Light Company and the Richmond Hill and Queens County Gas Light Company; and hearings having also been had by the Commission in Case No. 108 in the matter of standards of purity, illuminating power and heating power of gas, and the standards for the measurement thereof, in the City of New York and suburban territory; and an order having been made by the Commission in said Case No. 108 dated August 30, 1922, applicable to the corporations above named, which order is by reference made a part hereof; and the Commission having made investigation into the service, rates, properties and investments of the corporations above named; and the Commission being of the opinion that reduced rates should be fixed for gas to be charged by the said corporations as hereinafter set forth, and that the said corporations as hereinafter set forth, and that the said corporations should be required to establish classifications of service and graduated rates in connection therewith as hereinafter set forth it is

Ordered that on and after the 1st day of October, 1922, and until the 30th day of September, 1923, and thereafter until the Commission shall otherwise order, the just and reasonable rates to be charged by The Brooklyn Union Gas Company, The Newtown Gas Company, The Flatbush Gas Company, The Woodhaven Gas Light Company, The Jamaica Gas Light Company and the Richmond Hill and Queens County Gas Light Company, respectively, to all of their respective consumers, other than The City of New

York, and the classifications of the service furnished to such consumers, shall be as follows:

First 100,000 cubic feet of gas, per meter per month	$1.15 per M cu. ft.
Next 200,000 cubic feet of gas, per meter per month	1.10 per M cu. ft.
Next 300,000 cubic feet of gas, per meter per month	1.05 per M cu. ft.
Next 400,000 cubic feet of gas, per meter per month	1.00 per M cu. ft.
All over 1,000,000 cubic feet of gas, per meter per month	.95 per M cu. ft.

Further ordered that this Order shall take effect October 1, 1922 and shall continue in force until September 30, 1923, and thereafter until the commission shall otherwise order, and that, within ten days from the date of the service of a copy thereof, each of the above named gas corporations shall notify this Commission in writing whether the terms and conditions of this order are accepted and will be obeyed.

Further ordered that this Order shall be without prejudice to the right of any interested party, to apply to the Commission for a continuance of the hearings in these proceedings for the purpose of presenting evidence relating to the subject-matter of this Order.

By the Commission.

(Signed) Francis E. Roberts, Secretary. (Seal.)

[fol. 2334] State of New York, ss:

Public Service Commission

I have compared the preceding copy with the original order of this Commission, dated August 30, 1922, in the matter of gas rates in the city of New York and suburban territory, cases Nos. 79; 79-L, 79-F, 79-O, 79-U, 79-R, 79-V, on file in this office and I do hereby certify the same to be a correct transcript therefrom and of the whole thereof.

Witness my hand and the seal of the Public Service Commission, at the city of Albany this first day of September one thousand nine hundred and twenty-two.

(Signed) Francis E. Roberts, Secretary.

EMB.

[fol. 2335] PLAINTIFF'S EXHIBIT 69

STATE OF NEW YORK:

PUBLIC SERVICE COMMISSION

At a Session of the Public Service Commission Held in the City of Albany on the 18th Day of May, 1922

Present: William A. Prendergast, Chairman; William R. Pooley, Charles Van Voorhis, Oliver C. Semple, Charles G. Blakeslee, Commissioners.

Case No. 309

In the Matter of the Application of THE BROOKLYN UNION GAS COMPANY, pursuant to section 69 of the Public Service Commission Law, for an order authorizing the issuance of $6,000,000 aggregate principal amount of First Lien & Refunding Mortgage Gold Bonds and $5,579,000 aggregate principal amount of convertible debenture bonds and the issuance of a similar amount of capital stock to meet the conversion of the convertible debenture bonds, for the purposes therein specified and pursuant to Section 70 of the Public Service Commission Law, for the permission and approval of the Commission to acquire the first mortgage gold bonds of the Newtown Gas Company, the Flatbush Gas Company, the Jamaica Gas Light Company, and the Woodhaven Gas Light Company.

Amendatory Order

An order having been entered in this proceeding under date of May 10, 1922, authorizing the Brooklyn Union Gas Company to execute a mortgage, issue mortgage bonds and convertible debenture bonds; and

It appearing in Section 7 of the said order that the debenture bonds shall bear interest at the rate of seven per cent per annum, payable annually, instead of payable semi-annually:

It is ordered that Section 7 of the order entered herein on May 10, 1922, is hereby modified and amended to read as follows:

[fol. 2336] Section 7. It is ordered that the Public Service Commission does hereby authorize the issuance of The Brooklyn Union Gas Company of five million five hundred seventy-nine thousand dollars ($5,579,000) face amount of principal by its debenture bonds, dated as of May 1, 1922, maturing May 1, 1932, bearing interest at the rate of seven (7) per cent per annum, payable semi-annually, and the principal thereof to be convertible into the capital stock of said company at par at the option of the holders at any time on and after November 1, 1924 and prior to May 1, 1932, the issue of which stock for such purpose is hereby authorized by this Commission.

That in all other respects the terms and conditions of said order of May 10, 1922, shall remain in full force and effect.

By the Commission.

(Signed) Francis E. Roberts, Secretary. (Seal.)

JJH.

State of New York, ss:

Public Service Commission

I have compared the preceding copy with the original order of this Commission dated May 18, 1922, in the matter of the application of The Brooklyn Union Gas Company pursuant to Section 69 of the Public Service Commission Law for an order authorizing the issuance of $6,000,000 aggregate principal amount to First Lien & Refunding Mortgage Gold Bonds and $5,579,000 aggregate principal amount of convertible debenture bonds and the issuance of a similar amount of capital stock to meet the conversion of the convertible debenture bonds, for the purposes therein specified; and pursuant to section 70 of the Public Service Commission Law for the permission and approval of the Commission to acquire the First Mortgage Gold Bonds of The Newtown Gas Company, The Flatbush Gas Company, The Jamaica Gas Light Company and the Woodhaven Gas Light Company, amendatory order, on file in this office, and I do hereby certify the same to be a correct transcript therefrom and of the whole thereof.

Witness my hand and the seal of the Public Service Commission, at the city of Albany, this twentieth day of May, one thousand nine hundred and twenty-two.

(Signed) Francis E. Roberts, Secretary.

EMB.

[fol. 2337] PLAINTIFF'S EXHIBIT 70

STATE OF NEW YORK, ss:

Office of the Secretary of State

It is hereby certified that a Certificate of Increase of Capital Stock of The Brooklyn Union Gas Company, from Fifteen Million Dollars, to Twenty Million Dollars, was filed and recorded in this office on the Seventh day of January, Nineteen Hundred and Four.

Witness my hand — the seal of office of the Secretary of State at the City of Albany, this seventh day of January, one thousand nine hundred and four.

(Signed) J. B. H. Mongin, Deputy Secretary of State.

(Seal.)

[fol. 2338] PLAINTIFF'S EXHIBIT 71

The Brooklyn Union Gas Company

Certificate of Increase of Capital Stock

We, the undersigned, William N. Dykman, Chairman and Henry E. McGowan, Secretary respectively, of a Special Meeting of the Stockholders of The Brooklyn Union Gas Company, a domestic corporation, held for the purpose of increasing its capital stock, do hereby certify that prior to such meeting a notice stating the time, place and object thereof and the amount of the increase proposed, signed by the President and Secretary, was published once a week for at least two successive weeks, in The Brooklyn Daily Eagle a newspaper in the county where the principal business office of such corporation is located; that the following is a true copy of such notice.

The Brooklyn Union Gas Company, 176 Remsen Street, Brooklyn, N. Y.

Notice of Special Meeting of Stockholders

Notice is hereby given that a special meeting of the Stockholders of The Brooklyn Union Gas Company will be held at the office of the Company, No. 176 Remsen Street, Brooklyn, N. Y. on Friday, the 19th day of May, 1922, at 2 o'clock p. m., to authorize and consent to the execution of a First Lien and Refunding Mortgage upon all of the Company's property, real estate, plants, distributing system and franchises, subject only to existing mortgages; to authorize the initial issue thereunder of Series "A" First Lien and Refunding Mortgage Gold Bonds in an amount not to exceed $6,000,000, to be dated the 1st day of May, 1922, to mature on the 1st day of May, 1947, to bear interest at a rate not to exceed 6% per annum payable semi-annually; to authorize and consent to the issue of Convertible Debenture Bonds in an amount not to exced $5,579,000 to bear interest at a rate not to exceed 7% per annum, dated May 1, 1922 to mature May 1, 1932, said Debenture Bonds to be convertible at the option of the holders thereof into the capital stock of [fol. 2339] the Company at par at any time on and after November 1, 1924; the aforesaid Series "A" First Lien and Refunding Mortgage Gold Bonds, or Convertible Debenture Bonds to be issued under such other terms and conditions as the Board of Directors may determine; to authorize the increase of the capital stock of the Company from $20,000,000 to $30,000,000, to provide for the conversion of Debenture Bonds, as above set forth, the balance to be reserved for future requirements; and for the transaction of such other business as may come before the meeting.

The stock transfer books of the Company will be closed on Wednesday the 10th day of May, 1922, at 3 o'clock p. m., and reopened on Saturday, the 20th day of May, 1922, at 10 o'clock a. m.

By order of the Board of Directors.

James H. Jourdan, President. H. E. McGowan, Secretary.

Brooklyn, N. Y., April 28, 1922.

That a copy of such notice was duly mailed, postage prepaid, to each stockholder of such corporation at his last known post office address, at least two weeks before the meeting.

That at the time and place specified in such notice, stockholders appeared in person or by proxy in number representing at least a majority of all the shares of stock of such corporation and organized said meeting by choosing from their number the undersigned, William N. Dykman as Chairman and Henry E. McGowan as Secretary thereof.

That the notice of the meeting and proof of the proper publishing and mailing thereof was presented.

That upon motion, a vote was then taken of those present in person or by proxy, upon the following resolutions:

Resolved, that the capital stock of this corporation as authorized at Two Hundred Thousand (200,000) shares of the par value of One Hundred Dollars ($100) each, be and it hereby is increased to Three Hundred Thousand (300,-[fol. 2340] 000) shares of the par value of One Hundred Dollars ($100) each; and it is

Further resolved, that the Chairman and Secretary of this meeting be and they are hereby authorized and directed to make sign, verify and acknowledge the certificates of proceedings required by law to be filed and recorded, and the Chairman and Secretary of this meeting and the officers of this Company be and they are hereby authorized to do all acts and things that may be necessary to comply with the provisions of law in order to carry out and put into effect the foregoing resolutions.

That stockholders owning 142,744 shares of stock, being more than a majority of all the stock of the corporation voted in favor of such resolution; and no stockholder voted in opposition thereto.

That a sufficient number of votes having been cast in favor of such increase, such resolution was declared duly adopted.

That the amount of capital of such corporation heretofore authorized is Twenty Million Dollars ($20,000,000) and the proportion thereof actually issued is Eighteen Million Dollars ($18,000,000) and that the amount of the increased capital stock is Thirty Million Dollars ($30,000,000).

In witness whereof, we have made, signed, verified and acknowledged this Certificate.

Wm. N. Dykman, Chairman. Henry E. McGowan, Secretary.

Dated May 22d, 1922.

[fol. 2341] State of New York,
County of Kings, ss:

William N. Dykman, Chairman and Henry E. McGowan, Secretary respectively, of the aforesaid meeting, being severally duly sworn, do depose and say, and each for himself deposes and says that he has read the foregoing Certificate subscribed by him and knows its contents and that the same is true.

Wm. N. Dykman, Chairman. Henry E. McGowan, Secretary.

Sworn to before me this 22d day of May, 1922. Fred K. A. Delatour, Notary Public, 57, Kings Co. N. Y.

State of New York,
County of Kings, ss:

On this 22d day of May, 1922, before me personally came William N. Dykman and Henry E. McGowan to me personally known to be the persons described in and who made, signed and verified the foregoing certificate and they severally duly acknowledged to me that they made, signed and verified the same for the uses and purposes therein set forth.

Fred K. A. Delatour, Notary Public, 57, Kings Co. N. Y.

[fol. 2342] (Endorsed:) The Brooklyn Union Gas Company. Certificate of *De*crease of Capital Stock. Tax on privilege of increase of capital of this Corporation, $5,000. Under Section 180, Chapter 62, Laws of 1909, as amended. Paid to State Treasurer before filing. State of New York, office of Secretary of State. Filed May 31, 1922. John J. Lyons, Secretary of State.

[fol. 2343] State of New York,
Office of the Secretary of State, ss:

I have compared the preceding with the original Certificate to Increase the Capital Stock of The Brooklyn Union Gas Company, filed in this office on the 31st day of May, 1922, and do hereby certify the same to be a correct transcript therefrom and the whole thereof.

Witness my hand and the seal of office of the Secretary of State, at the City of Albany, this thirtieth day of April one thousand nine hundred and twenty-three.

(Signed) Herman Doctor, Second Deputy Secretary of State. (Seal.)

[fol. 2344] Plaintiff's Exhibit No. 74

P. S. C. No. 1—Gas. Original Leaf No. 12. Superseding B. U. G. Co. No. 1

The Brooklyn Union Gas Company

Service Classification No. 1

Applicable to Use of Service for Light, Heat, or Power for any Consumer of Gas Other Than the City of New York

Character of Service:

Continuous.

Rate:

First 100,000 cubic feet of gas per meter per month $1.15 per M cubic feet.

Next 200,000 cubic feet of gas per meter per month $1.10 per M cubic feet.

Next 300,000 cubic feet of gas per meter per month $1.05 per M cubic feet.

Next 400,000 cubic feet of gas per meter per month $1.00 per M cubic feet.

All over 1,000,000 cubic feet of gas per meter per month $0.95 per M cubic feet.

Minimum Charge:

None.

Determination of Demand:

No demand rate charged.

Terms of Payment:

Net cash.

Term:

Terminable by consumer on two days' written notice to the Company, and by the Company in the manner provided by law and the rules and regulations herein set forth.

Special Provisions: ——.

Date of Issue, Sept. 30, 1922. Date Effective, October 1, 1922.

Filed under Order of the Public Service Commission of State of New York of date August 30, 1922, in Case No. 79, 79-L, and Special Permission Order No. G-66 of date September 27, 1922.

Issued by James H. Jourdan, President, 176 Remsen Street, Borough of Brooklyn, City of New York.

(Here follows Plaintiff's Exhibit 77, marked side folio pages 2345, 2346, 2347, 2348, 2349, 2350, 2351, and 2352)

PLAINTIFF'S EXHIBIT NO. 77

Department of City Works,

BROOKLYN

CONTRACT AND SPECIFICATIONS

FOR

Furnishing Illuminating Gas for the Street Lamps and Public Buildings of the City of Brooklyn for years 189Y. 1898 1899-1900 and 1901

This Agreement, made and entered into this Fifteenth day of March in the year of our Lord eighteen hundred and ninety Seven between THE CITY OF BROOKLYN, by its **Mayor and Commissioner of City Works,** parties of the first part (by virtue of a resolution of the Common Council of said City adopted March 1st 1897) and The Brooklyn Union Gas Co. party of the second part.

Witnesseth, That the said party of the second part, for and in consideration of the sum of money hereinafter agreed to be paid to it by the said party of the first part, has agreed, and does hereby agree, in accordance with specifications hereto attached, which said specifications are hereby declared to be a part of this contract with the same force as though the same were herein written, to furnish gas to the public buildings in the district covered by its franchise, to the street lamps in the same district, and to private consumers in the same district, as per annexed schedule from Jany 1st 1897 to Dec 31st 1900 Inclusive

TERM OF CONTRACT		One Year	Three Years			Five Years					Ten Years									
			1st Year	2d Year	3d Year	1st Year	2d Year	3d Year	4th Year	5th Year	1st Year	2d Year	3d Year	4th Year	5th Year	6th Year	7th Year	8th Year	9th Year	10th Year
Per Lamp per Year	3 foot burner					18.	17.50	17	16.50	16										
	4 foot burner					22.50	22.00	21.50	21.00	20.50										
	5 foot burner					27.50	26.50	26.00	25.50	25.00										
	3 foot Welsbach burner					32	31.50	31.00	30.50	30										
Per M cubic ft	Gas for public buildings					1.00	95	90	85	80										
	Gas for private buildings					1.30	1.25	1.20	1.15	1.10										

And the said party of the first part, in consideration of the full and complete performance by the said party of the second part of all the terms and agreements hereof, will pay or cause to be paid monthly to the said party of the second part, its successors or assigns, the amount earned by it under this contract, at the rates above mentioned, in lawful money of the United States, upon the approval of the vouchers therefor by the proper city officers.

2345

And it is further agreed that the charge for gas furnished for the public buildings, to each private consumer, and for each lamp respectively hereinbefore provided for, shall be the charge for all gas to be furnished to new public buildings, to new private consumers and to each and every additional street lamp, respectively, in said district, by the party of the second part, during the years 189Y to 1901. inclusive

And it is further agreed whenever and as often as gas may be authorized and required for new public buildings in said district and as often as additional lamps may be authorized and required in said district, that on written notice from the Commissioner of City Works, the said party of the second part will execute a contract or agreement of like import as this contract, to furnish gas to said new buildings and to furnish gas to and to maintain such additional lamps at the rates herein provided for, and in accord with the specifications hereinbefore referred to.

And it is further agreed that security given for the faithful performance of this contract shall apply to and be security for the faithful performance of any and all additional contracts and agreements to be executed as hereinbefore provided for.

In Witness Whereof, the said parties hereto have subscribed to these presents, the day and year first above mentioned.

(Signed) The Brooklyn Illuminating Gas Co
(Signed) James Jourdan President
Contractor.

SIGNED IN THE PRESENCE OF (Signed) A. H. Hurlbut
Mayor.

Albert Edwin Ludlam
Clerk. — (Signed) Theo. F. Miller.
Commissioner of City Works.

ATTEST Joseph Benjamin
City Clerk.

BROOKLYN 14th June 1897.

The undersigned, the Comptroller of the City of Brooklyn, does hereby certify that the means required to make the payments under the foregoing contract or agreement, to wit, the sum of One hundred & fifty thousand nine hundred & thirty eight & 04/100 Dollars
($150.938.04)

$150.938.04

are provided and applicable thereto.

Lighting St 145,438.04
Public Bldgs 5500.
$150.938.04

(Signed) Geo. H. Palmer.
Comptroller of the City of Brooklyn

"This act legalizes the Contract"
GHD

SPECIFICATIONS

FOR

FURNISHING GAS LIGHTS FOR LIGHTING THE STREETS AND PUBLIC BUILDINGS OF THE CITY OF BROOKLYN FOR THE YEAR

SECTION 1.—All parties proposing to light the public lamps with gas, must propose to light as many lamps in each of the several districts as the Common Council may direct after the bids or proposals have been received.

SEC. 2.—The time table attached hereto is the basis as to time on which proposals are to be submitted. Proposals must state the price complete for each lamp per annum including gas lighting, cleaning, extinguishing, and repairing.

SEC. 3.—The gas to be furnished on or in such streets, avenues, squares, market places, buildings and such other places as the Common Council may direct, shall be of at least 20 candle power (20 C. P.) when tested as the Commissioner of City Works may direct, and the Company receiving the contract shall furnish such facilities, either at its works or at such other places as may be required by the Commissioner of City Works, to make such tests. All tests are to be of sufficient duration to eliminate accidents and irregularities, and to obtain true average results. Bids for street lamps shall state a uniform rate per lamp per year for all lamps of the kind on which bid is made in accordance with the accompanying table, and shall be made for the various terms of years named in the Schedule. The Commissioner of City Works may in his discretion order any burner to be placed by either of the others on which bid is made.

SCHEDULE.

TERM OF CONTRACT.		One Year.	Three Years.			Five Years.					Ten Years.									
			1st Year.	2d Year.	3d Year.	1st Year	2d Year.	3d Year.	4th Year.	5th Year.	1st Year.	2d Year.	3d Year.	4th Year.	5th Year.	6th Year.	7th Year.	8th Year.	9th Year.	10th Year.
Per Lamp per Year.	3-foot burner.....																			
	4-foot burner.....																			
	5-foot burner.....																			
	3-foot Welsbach burner.																			
Per M cubic ft.	Gas for public buildings.																			
	Gas for private buildings																			

SEC. 4.—Whenever the Common Council shall order gas lamps to be set on any street, avenue or public place of the city, or shall have given private owners authority to erect lamps therein or thereon, the Commissioner of City Works shall notify the gas company in whose district such street, avenue or public place is situated, to lay mains forthwith in such locality for the purpose of supplying gas to such lamps as are contemplated to be set under said order; and it shall be the duty of such company to lay such mains, and in case of neglect or refusal to comply, the said Commissioner shall so notify the Common Council, and that body thereupon shall take such action as may be deemed advisable to compel compliance, provided, however, that the company shall not be required to lay such mains unless gas lamps are by the municipal authorities ordered to be erected in connection therewith, in accordance with the provisions of the ordinances of the City of Brooklyn, relating thereto.

SEC. 5.—The additional posts, lanterns and each and any other article or apparatus which may be necessary for new or additional lamps for street lighting shall be furnished by the city at its own expense, but the setting and connecting of lamp posts and lanterns shall be done by the company. Street signs must be placed or retained in their proper places and positions in the lanterns by the company. The signs will be furnished by the Department of City Works at its store-rooms, and must be placed by the companies or contractors in such lamps as may at anytime be designated by the Commissioner of City Works.

SEC. 6.—The company shall at their own expense thoroughly repair all lamps and posts as repairs are needed, said repairs to include the putting in of new glass the repairing of frames, tubes and burners, blowing out of pipes and every other repair necessary to keep the posts, lanterns and appurtenances in good and efficient condition for the supply and consumption of gas and other illuminating material during the continuance of said contract, and also the straightening and painting of posts, and if the company shall neglect to make any repairs within a reasonable time after being required so to do by a notice from the Commissioner of City Works, the Commissioner shall cause such work to be done and shall charge the expense thereof to the company in whose district such lamp is located.

SEC. 7.—The Company shall clean all the lamps located in its district once a week, and oftener if necessary to keep them clean; if any lamps which require cleaning remain in an unclean condition for a longer period than twenty-four hours after notice has been given to the Company to clean the same, the Commissioner of City Works shall cause the cleaning to be done and shall charge the expense thereof to the Company in whose district such lamp is located.

SEC. 8.—The times of lighting and extinguishing are fixed in accordance with the appended time table, aggregating three thousand nine hundred hours per lamp per year. Lighting and extinguishing must begin promptly at the time specified, and be completed within forty-five minutes. The order of lighting and extinguishing of the subdivisions of each district shall be reversed every fifteen days. The Commissioner of City Works reserves the right to change at any time the hours for lighting and extinguishing in any way which does not increase the aggregate hours of lighting during the year.

TIME TABLE FOR STREET LIGHTING FOR THE YEARS 189— TO ———, INCLUSIVE

DATES, BOTH INCLUSIVE.	Begin to Light.	Begin to Extinguish.	DATES, BOTH INCLUSIVE.	Begin to Light	Begin to Extinguish.	DATES, BOTH INCLUSIVE	Begin to Light	Begin to Extinguish.
January 1st to January 7th	4.17	6.18	May 1st to May 6th	7.04	3.42	Sept. 1st to Sept. 9th	6.36	4.17
" 8th " 14th	4.25	6.12	" 7th " 13th	7.14	3.34	" 10th " 16th	5.18	4.23
" 15th " 21st	4.33	6.06	" 14th " 20th	7.19	3.25	" 17th " 23d	6.02	4.30
" 22d " 28th	4.41	6.00	" 21st " 27th	7.24	3.16	" 24th " 30th	5.47	4.40
" 29th " 31st	4.49	5.54	" 28th " 31st	7.29	3.07	Oct. 1st to Oct. 7th	5.32	4.48
February 1st to February 4th	4.58	5.48	June 1st to June 3d	7.35	3.04	" 8th " 14th	5.17	4.56
" 5th " 11th	5.07	5.42	" 4th " 10th	7.40	3.00	" 15th " 21st	5.03	5.04
" 11th " 18th	5.16	5.36	" 11th " 17th	7.45	3.04	" 22d " 31st	4.50	5.12
" 19th " 25th	5.25	5.30	" 18th " 24th	7.50	3.07	Nov. 1st to Nov. 4th	4.40	5.22
" 26th " 28th	5.31	5.24	" 25th " 30th	7.45	3.10	" 5th " 11th	4.30	5.27
March 1st to March 4th	5.42	5.19	July 1st to July 8th	7.40	3.14	" 12th " 18th	4.20	5.36
" 5th " 11th	5.51	5.17	" 9th " 15th	7.35	3.17	" 19th " 30th	4.10	5.44
" 12th " 18th	6.00	5.04	" 16th " 22d	7.30	3.29	Dec. 1st to Dec. 6th	4.05	5.52
" 19th " 25th	6.09	4.54	" 23d " 31st	7.25	3.40	" 10th " 16th	4.03	6.00
" 26th " 31st	6.18	4.40	Aug. 1st to Aug. 5th	7.20	3.49	" 17th " 23d	4.00	6.08
April 1st to April 8th	6.27	4.37	" 6th " 12th	7.12	3.59	" 24th " 31st	4.00	6.16
" 9th " 15th	6.36	4.22	" 13th " 19th	7.03	4.05			
" 16th " 22d	6.45	4.07	" 20th " 26th	6.52	4.09			
" 23d " 30th	6.54	3.53	" 27th " 31st	6.41	4.12			

The Contractor shall be entitled to receive for any additional number of hours during which the public lamps or any of them are kept burning, in accordance with the directions of the said Commissioner, an additional pro rata compensation; and if at any time, in compliance with the directions of such Commissioner, the number of hours during which the lamps or any part of them are kept burning shall be less than the stipulated time then a pro rata reduction shall be made.

The Commissioner of City Works shall have the power to make deductions for unlighted lamps whenever reported to him by the proper authorities as having been lighted later than or extinguished before the time specified in the contract, or as having been extinguished for more than thirty (30) consecutive minutes during the period of lighting.

SEC. 9.—The Companies or contractors shall be entitled to receive payments monthly within ten days after bills are rendered.

SEC. 10.—The Commissioner of City Works shall have the right, when directed by the Common Council, to change the location or manner of suspension or erection of any gas light at present in use, or hereafter to be supplied, and the expense of such change shall be fixed by the Commissioner of City Works and paid by the City of Brooklyn.

SEC. 11.—All lamp posts shall be promptly capped or uncapped by the Company, at its own expense, whenever so ordered by the Common Council and the Commissioner of City Works. The Company shall, by order of the Common Council and the Commissioner of City Works, disconnect any lamp post without any expense to the City

SEC. 12.—The cost of gas inspection, not exceeding one thousand dollars ($1,000) per annum, shall be apportioned upon and paid by the contractors furnishing the gas, in proportion to the several sums paid to them respectively for said gas.

SEC. 13.—The contract will include an agreement on the part of the successful bidder to indemnify and save harmless the City of Brooklyn from and against all claims and demands for damages, in contract or tort, costs, expenses or compensation for or by reason of the erection, maintenance or use of any of said lights or of the pipes or apparatus connected therewith, and also against any and all claims by reason of any infringement of any patent right in the use of said lights or the apparatus or machinery connected therewith.

SEC. 14.—Bids for gas lights in the streets and public places must be entirely separate and apart from bids for gas for public buildings, the rate for the latter being based upon meter measurement

SEC. 15.—Bids must include rates to be charged against consumers for gas supplied to private buildings, in case the contract signed be for an extended time, said rates to be lower than the rates prevailing at present for the first year and progressively lower for each year thereafter in accordance with Chapter 990, Laws of 1895

Know all Men by these Presents, That we THE BROOKLYN UNION GAS COMPANY, a Corporation of the State of New York at Principal, and The Fidelity & Deposit Company of Maryland having an Office and Principal Place of business for State of New York at No 146 Broadway in the City of New York as Surety

are held and firmly bound unto the City of Brooklyn, in the sum of ——————

One hundred Thousand — ($100,000) ——————

dollars, lawful money of the United States, to be paid to the said City of Brooklyn, for which payment well and truly to be made we bind ourselves, our heirs, executors, and administrators, jointly and severally firmly by these presents.

Sealed with our seals, dated the 22nd day of March —

one thousand eight hundred and ninety seven

Whereas, the above bounden THE BROOKLYN UNION GAS COMPANY, by a contract in writing under his hand and seal, bearing even date with these presents, and hereunto annexed, has contracted with the City of Brooklyn, through the Mayor and Commissioner of City Works to supply the City of Brooklyn and its inhabitants with Gas for years 1897 to 1901 both inclusive. ——————

and to execute additional contracts as therein provided.

Now, therefore, the conditions of the above obligation are such that if the above bounden THE BROOKLYN UNION GAS COMPANY, shall do, and in all things well, truly and faithfully execute and perform all and singular the requirements of said contract and of any and all additional contracts to be executed as in said contract provided, on his part to be performed, then this obligation to be void, or else to remain in full force of virtue.

Signed, sealed and delivered in presence of

THE BROOKLYN UNION GAS COMPANY
Signed by James Jourdan President

Residence ——————

Attest Edwin Laidlaw Secty

Seal

Residence ——————

Fidelity & Deposit Company of Maryland
Signed by Henry C. Hall Vice President

Seal

Attest John W. Hoolen Attorney.
Residence ——————

2350

County of Kings, } ss.
City of Brooklyn, }

On this 1st day of May 1897, before me personally appeared Henry Lowndes known to me to be the same individual described in, and who executed the preceding contract, and acknowledged to me that he executed the same for the purpose therein mentioned.

A. J. Stanford.
Commissioner of Deeds, City of Brooklyn.

County of Kings, } ss.
City of Brooklyn, }

On this 6th day of May 1897, before me personally came Adrien Ludlam to me known to be the individual described in and who executed the within preceding covenants, and they severally, each for himself, acknowledged that they executed the same for the purpose therein mentioned.

A. J. Stanford.
Commissioner of Deeds, City of Brooklyn.

County of Kings, } ss.
City of Brooklyn, }

being duly sworn, do each for himself depose and say, that he is worth the sum of

dollars

over and above all debts and liabilities by him owing or incurred, or for which his property is liable or incumbered at the time of justification, and over and above all exemption by law of his property from execution, and all liabilities heretofore assumed as principal or surety upon any bond or undertaking and now existing.

Sworn to before me this day }
of 189 }

Commissioner of Deeds, City of Brooklyn.

Please return to
W. K. Rossiter
180 Remsen St. Bklyn.

Dated 15th May 1897

CONTRACT.

No 17570.

THE BROOKLYN UNION GAS COMPANY,

FOR LIGHTING STREETS AND PUBLIC BUILDINGS OF THE CITY OF BROOKLYN WITH GAS FOR THE YEAR 1897.

'97	1898	'99	1900	1901
1st	97½	95	92½	90
½	1.15	1.10	1.05	1.00

to 31st Dec 1901

Confirmed by Comptroller
14th June 1897

Bergen & Dykman
189 Montague St
Brooklyn
NY

2352

[fols. 2353 & 2354] PLAINTIFF'S EXHIBIT 78

The Brooklyn Union Gas Company

Stocks and Bonds Outstanding October 31, 1923

Capital Stock (authorized $30,000,000.00) issued		$18,000,000.00
The Brooklyn Union Gas Co., 5% 1st. Consolidated Mortgage Bonds, due 1945	$14,736,000.00	
The Citizens Gas Light Co., 5% Consolidated Mortgage Bonds, due 1940	264,000.00	
The Brooklyn Union Gas Co., First Lien and Refunding Mortgage 6% Gold Bonds, due 1947	6,000,000.00	
The Brooklyn Union Gas Co., 7% Convertible Debentures, due 1929	2,000,000.00	
The Brooklyn Union Gas Co., 7% Convertible Debentures, due 1932	5,579,000.00	
	28,579,000.00	

[fol. 2355] PLAINTIFF'S EXHIBIT 79

STATE OF NEW YORK:

PUBLIC SERVICE COMMISSION

(Case No. 79)

Matter of Gas Rates in the CITY OF NEW YORK AND SUBURBAN TERRITORY

(Case No. 79-L)

Matter of Rates for Gas of THE BROOKLYN UNION GAS COMPANY

(Case No. 79-F)

Matter of The Newtown Gas Company

(Case No. 79-O)

Matter of The Flatbush Gas Company

(Case No. 79-U)

Matter of The Woodhaven Gas Light Company

(Case No. 79-R)

Matter of The Jamaica Gas Light Company

(Case No. 79-V)

Matter of The Richmond Hill and Queens County Gas Light Company

Acceptance of Order

The Brooklyn Union Gas Company hereby acknowledges receipt of a copy of an order certified by the Secretary of the Commission to have been adopted by the Commission on August 30, 1922, in the above entitled proceeding, prescribing the rates to be charged for gas by said Company to all of its consumers, other than The City of New York, and the classification of such service.

The Brooklyn Union Gas Company hereby notifies the Commission that the said order of August 30, 1922, and the terms and conditions thereof are accepted and will be obeyed.

This acceptance and statement of readiness to obey the said order dated August 30, 1922, is not intended as a concession by The Brooklyn Union Gas Company that the rates therein prescribed are adequate or reasonable or that such rates and classifications of service will yield a proper return upon the value of its property used and useful in its business.

Such acceptance and statement of readiness to obey is not intended as a waiver of any right at any time in the future to claim a return upon the value of its property at the time

or any other right which it may have with reference to rates past, present or future.

Dated September 14th, 1922.

[fol. 2356] The Brooklyn Union Gas Company, (Sgd.) by J. H. Jourdan, President.

STATE OF NEW YORK:
County of Kings, ss:

On this 14th day of September, 1922, before me personally came James H. Jourdan, to me known to be the President of The Brooklyn Union Gas Company, and he acknowledged to me that the foregoing notification to the Public Service Commission was executed by him and he was duly authorized by The Brooklyn Union Gas Company to admit such service.

(Sgd.) N. L. Smith, Notary Public, Kings County.

[fol. 2357] PLAINTIFF'S EXHIBIT 80

At a Meeting of the Public Service Commission, State of New York, Held in the City of New York on the 30th Day of August, 1922

Present: Hon. William A. Prendergast, Chairman; Hon. William R. Pooley, Hon. Charles Van Voorhis, Hon. Oliver C. Semple, Hon. Charles G. Blakeslee, Commissioners.

Case No. 108

In the Matter of Standards of Purity, Lighting Power, and Heating Power of Gas and Standards of Measurement Thereof in the City of NEW YORK AND SUBURBAN TERRITORY

Order Fixing Standards of Purity, Power, and Pressure

The matter of the standards of purity, illuminating power, and heating power, of gas, and standards for measurement thereof, in The City of New York and suburban territory being before the Commission for determination;

and hearings having been held thereon by the Commission, upon its own motion, pursuant to the statute, on the 6th, 7th, 14th, 17th, 24th, 27th and 28th days of February, 1922, the 3rd, 6th, 10th, 13th, 14th, 27th, 28th and 30th days of March, 1922, and the 26th day of May 1922; the following having appeared herein: Ledyard P. Bale, Esq., Counsel for the Public Service Commission (Colley W. Bell, Esq., Special Assistant Counsel); The City of New York by John P. O'Brien, Esq., Corporation Counsel, and M. M. Fertig, Esq., A. Judson Hyatt, Esq., and Harry Hertzoff, Esq., Assistant Corporation Counsel; The President of the Borough of Richmond by T. S. Oxholm, Esq.; The Merchants Association of the City of New York by F. B. DeBerard, Esq.; Certain industrial consumers by John P. Thatcher, Esq.; City Parliament of Community Councils by Jabez E. Dunningham, Executive Secretary; Representatives of various Community Associations and Individual consumers; Brooklyn Union Gas Company, The Newtown Gas Company, Flatbush Gas Company, Woodhaven Gas Light Company, Jamaica Gas Light Company, and Richmond Hill and Queens County Gas Light Company by Cullen and Dykman (Jackson A. Dykman, Esq., and Edward J. Crummey, Esq., of Counsel); Westchester Lighting Company by F. A. Stratton, President; Kings County Lighting Company by Samuel F. Moran, Esq.; New York and Richmond Gas Company by Frank H. Innes, Esq., and Jacob H. Goetz, Esq.; The Consolidated Gas Company of New York, The Astoria Light, Heat and Power Company, The New Amsterdam Gas Company, The East River Gas Company of Long Island City, Central Union Gas Company, Northern Union Gas Company; The Standard Gas Light Company of the City of New York; The Mutual Gas Light Company, Bronx Gas and Electric Company, by Whitman, Ottinger and Ransom (William L. Hansom, Esq., and Jacob H. Goetz, Esq., of Counsel) and Sherman and Sterling (Charles A. Vilas, Esq., of Counsel); Queens Borough Gas and Electric Company and Brooklyn Borough Gas Company by Whitman, Ottinger and Ransom (William L. Ransom, Esq., Jacob H. Goetz, Esq., and Colley E. Williams, Esq., of Counsel; and the Commission being now of the opinion that the standard of 22-candle-power, prescribed by Chapter 736 of the Laws of 1905 and Chapter 125 of the Laws of 1906, as amended, is unreasonable, uneconomical, and

improper, and that the continuance of such a standard would not be in the public interest, and that a standard of quality and measurement, based upon the heating power of gas, as hereinafter more particularly specified, should [fol. 2358] now be fixed by the Commission; it is hereby

Ordered:

I. That on and after October 1, 1922, each gas corporation supplying manufactured gas in the Boroughs of Manhattan, Brooklyn, the Bronx, Queens and Richmond, comprising the City of New York, and in the franchise territory of the Queens Borough Gas and Electric Company, in the County of Nassau shall in lieu of the existing standard or standards, furnish to its consumers a quality of gas, which shall comply with the following requirements:

(a) Containing not more than 15% inert constituents.

(b) Containing not more than a trace of sulphuretted hydrogen to be determined as hereinafter provided.

(c) Containing not more than 30 grains of sulphur, nor more than 5 grains of ammonia in each 100 cubic feet of gas, corrected to a temperature of 60 degrees Fahrenheit and a pressure corresponding to a thirty inch (30") column of mercury.

(d) Under conditions of complete combustion and corrected as in paragraph ("c"), the gas furnished shall have a total heating value on a monthly average (made up of the average of the daily averages) of not less than 537 British thermal units per cubic foot, and a daily average (made up of the average of the daily averages) of not less than 525 British thermal units per cubic foot on any three consecutive calendar days in any month; the daily average for any such day to be ascertained and computed by averaging the results of not less than three official tests taken, at intervals of not less than three hours, on each such day, pursuant to the provisions of this Order, each of which tests shall be communicated to the corporation within twelve hours of its completion. The heating value of the gas furnished during a calendar month shall not, on any three consecutive calendar days have a maximum

variation upward of more than five per cent of the monthly average heating value.

II. (a) That each corporation shall maintain as measured at the consumers' end of the company's service pipe to any consumer, a minimum pressure of gas which shall in no case be less than two inches (2″) water column on two (2) consecutive days.

(b) The maximum pressure of gas furnished by each such corporation as measured at the consumers' end of the company's service pipe to any consumer, shall not exceed six inches (6″) water column on two (2) consecutive days, unless the consumer or consumers supplied from such service pipe have made a specific request in writing for a pressure of six inches (6″) or in excess of six inches (6″) water column. This provision shall not be construed as imposing any obligation on the company to furnish gas at a pressure of six inches (6″) water column or more.

(c) The maximum daily pressure variation, as measured at the consumers end of a company's service pipe to any consumer shall not exceed two inches (2″) water column on two (2) consecutive days.

(d) The maximum momentary pressure variation (defined as a constant increase or decrease of pressure, practically instantaneous and not recurring with regular periodicity or frequency, nor necessarily with the same amplitude at the consumers' end of the company's service pipe to any consumer shall not exceed a total range of eight-tenths inches (8/10″) water column on two (2) consecutive days.

(e) The maximum pulsating pressure variation (defined as a constant increase or decrease of pressure of short duration, practically instantaneous and recurring with regular periodicity or frequency and usually with approximately the same amplitude) at the consumers' end of the company's service pipe shall not exceed a total range of five-tenths inches (5/10″) water column on two (2) consecutive days.

III. That each such corporation engaged in the manufacture or distribution of gas shall, subject to the approval of the Commission, within sixty (60) days from the effective

date of this Order, provide and maintain a testing station or stations at a point or points distant at least one (1) mile from the place of manufacture or distribution. Gas Testing Stations shall be provided with all suitable apparatus, equipment, reagents and facilities for testing and [fol. 2359] analyzing gas, in accordance with the provisions of this Order, and shall comprise the following with all necessary accessories and appurtenances:

(a) An approved type of gas calorimeter set.

(b) An approved type of apparatus for the determination of and test for sulphuretted hydrogen.

(c) An approved type of apparatus for the determination of total sulphur and ammonia in gas.

(d) An approved type of apparatus for determining the composition of the gas.

(e) An approved type of recording pressure gauge.

Station and station equipment shall be kept in good condition, ready for use at all reasonable hours, and access shall be allowed to representatives of this Commission for the purpose of making gas tests and gas analyses at any time.

IV. (a) That each corporation shall make daily tests of the calorific value of the gas and its sulphuretted hydrogen content at the approved testing station or stations.

V. That each such corporation at its approved testing station or stations shall make analyses of its gas and determinations of the total sulphur and ammonia content at least once each month and when otherwise required by this Commission.

VI. That standard forms approved by this Commission shall be used for recording all tests and analyses made by such corporations and shall be retained as permanent chronological records in the stations where made for a period of two (2) years from the recording date.

VII. (a) That commencing October 1, 1922, each such gas corporation, upon the request of a consumer using open-flame burners for illumination, shall furnish, and install, if requested, mantle burners to replace such open-

flame burners, such mantle burners to be so furnished and, if requested, so installed at cost, for a period of eight (8) months from October 1, 1922, and that all necessary adjustments to appliances shall be done free of charge to the user of such appliances.

(b) That the change from the existing candle power standard to the standard fixed in paragraph 1—herein shall be in effect on and after October 1, 1922, as hereinbefore more particularly provided; and that each such gas corporation shall make such changes in its practices, methods, appliances, property, service and standards as may be deemed necessary and proper to effect the change from its present standard to the standard fixed as effective on and after October 1, 1922.

Hydrogen Sulphide Determination

VIII. (a) That a gas shall be considered to contain no trace of hydrogen sulphide when tested as follows: If a strip of white paper moistened with solution containing 5% by weight of acetate of lead, and exposed to a current of gas flowing at a rate of about 5 cubic feet per hour, does not after 30 seconds of such exposure become discolored, the gas shall be considered to contain no hydrogen sulphide.

General Provisions

IX. (a) That the standards of gas herein provided for shall supersede the standard for the illuminating power of gas and any other existing standards which may heretofore have been fixed by general or special statute or by an Order of a Public Service Commission.

(b) The monthly average calorific value of the gas in any calendar month shall be a computation of the daily averages of all calorific tests made during the month by employees of this Commission.

[fol. 2360] (c) All gas which must of necessity be distributed under a pressure exceeding 5 pounds per square inch shall be tested before compression. In cases where various gas systems are interconnected, the Commission, upon application of two or more allied companies or two or more

branches of the same company, may approve a testing point common to the applying parties.

X. That upon the acceptance of this Order by the Kings County Lighting Company, an Order entered by the Commission in Case No. 108-A on March 23, 1922, as amended by an Order entered in Case No. 108-A on April 25, 1922, shall be deemed abrogated and set aside as of October 1, 1922, and the provision of this Order shall become immediately effective; and that upon the acceptance of this Order by the Brooklyn Borough Gas Company, the Order entered by the Public Service Commission for the First District in its Case No. 2320 on July 2, 1920, shall be deemed abrogated and set aside and the provisions of this Order shall immediately become effective.

XI. That upon the acceptance of this Order by the Queens Borough Gas and Electric Company, the Order entered by the Public Service Commission for the Second District, in Case No. 1502 on October 11, 1916, applicable to the franchise territory of that company in Nassau County, shall be deemed abrogated and set aside as of October 1, 1922.

XII. That this Order shall take effect on the date specified herein, and shall continue in effect until changed, modified or abrogated by this Commission; and that within ten (10) days from the service of a copy hereof each gas corporation subject to the jurisdiction of this Commission, manufacturing or supplying gas within The City of New York, or in the territory served by the Queens Borough Gas and Electric Company in Nassau County, shall notify this Commission whether the Order is accepted and will be obeyed.

By the Public Service Commission.

(Signed) Francis E. Roberts, Secretary. (Seal.)

[fol. 2361] State of New York, ss:

Public Service Commission

I have compared the preceding copy with the original order of this Commission dated August 30, 1922, in the matter of Standards of Purity, Lighting Power and Heat-

ing Power of Gas, and Standards of Measurement thereof, in the City of New York and Suburban Territory (order fixing standards of purity, power and pressure), Case No. 108, on file in this office, and I do hereby certify the same to be a correct transcript therefrom and of the whole thereof.

Witness my hand and the seal of the Public Service Commission, at the city of Albany this fifth day of September one thousand nine hundred and twenty-two.

(Signed) Francis E. Roberts, Secretary. (Seal.)

MED.

[fol. 2362] PLAINTIFF'S EXHIBIT 81

STATE OF NEW YORK:

PUBLIC SERVICE COMMISSION

Case No. 108. Acceptance of Order

In the Matter of Standards of Purity, Lighting Power, and Heating Power of Gas and Standards of Measurement Thereof, in the City of New York and Suburban Territory

To the Public Service Commission of the State of New York:

The Brooklyn Union Gas Company hereby acknowledges receipt of a copy of an order certified by the Secretary of the Commission to have been adopted by the Commission on August 30, 1922, in the above entitled proceeding, and notifies the Commission that the said order of August 30, 1922 and the terms and conditions thereof are accepted by the Company and will be obeyed.

The Brooklyn Union Gas Company. (Sgd.) by J. H. Jourdan, President.

Dated September 14, 1922.

STATE OF NEW YORK,
County of Kings, ss:

On this 14th day of September, 1922, before me personally came James H. Jourdan, to me known to be the Presi-

dent of The Brooklyn Union Gas Company, and he acknowledged to me that the foregoing notification to the Public Service Commission was executed by him and he was duly authorized by The Brooklyn Union Gas Company to admit such service.

(Sgd.) N. L. Smith, Notary Public, Kings County.

[fol. 2363] **Plaintiff's Exhibit 82**

State of New York:

In the matter of the petition of John C. Lester to the Attorney General of the State of New York to institute proceedings against The Brooklyn Union Gas Company, Williamsburgh Gas Light Company, Fulton Municipal Gas Company, Nassau Gas Light Company, Peoples Gas Light Company, Metropolitan Gas Light Company, Citizens Gas Company, and The Brooklyn Gas Light Company to annul their charters and to restrain each and every one of said corporations from continued violation of the law against trusts, monopolies, and combinations and conspiracies for the purpose of unlawfully restraining trade.

Petition of John C. Lester

Take notice that a petition herein, a copy of which is hereto annexed, was presented to the Attorney General on June 29, 1896, and that the Attorney General has designated July 13, 1896, at 12 o'clock, noon, at his office in the [fol. 2364] Capitol at Albany, as a time and place when all persons and corporations interested in the matters contained in said petition may be heard.

Grout, De Fere & Mayer, Attorneys for Petitioner,
189 Montague St., Brooklyn, N. Y.

Date July 2, 1896.

To The Brooklyn Union Gas Company, Williamsburgh Gas Light Company, Fulton Municipal Gas Company, Nassau Gas Light Company, Peoples Gas Light Company, Metropolitan Gas Light Company, Citizens Gas Company, The Brooklyn Gas Light Company, Messrs. Bergen & Dykman.

[fol. 2365] STATE OF NEW YORK:

In the matter of the petition of JOHN C. LESTER to the Attorney General of the State to institute proceedings against The Brooklyn Union Gas Company, Williamsburgh Gas Light Company, Fulton Municipal Gas Company, Nassau Gas Light Company, Peoples Gas Light Company, Metropolitan Gas Light Company, Citizens Gas Company and The Brooklyn Gas Light Company to annul their charters and to restrain each and every one of said corporations from continued violation of the laws against trusts, monopolies, and combinations and conspiracies for the purpose of unlawfully restraining trade.

To the Attorney General:

The undersigned, a citizen of the State of New York and a resident of the City of Brooklyn, respectfully shows:

1. That on November 4, 1895, the Williamsburgh Gas Light Company, the Fulton Municipal Gas Company, the Nassau Gas Light Company, the Peoples Gas Light Company, the Metropolitan Gas Light Company, the Citizens Gas Company and the Brooklyn Gas Light Company were corporations, severally duly organized and existing under the laws of the State of New New York, for the purpose of manufacturing and supplying gas for illuminating and heating purposes within the City of Brooklyn, and were then and for some years prior thereto had been in actual operation as such.

2. That the said companies were operating their plants [fol. 2366] and supplying gas for private and public use within the said City of Brooklyn, pursuant to law, and to franchises or consents obtained from the said City of Brooklyn, and which had theretofore been severally granted to them by the Common Council of said City.

3. That the consents were so granted to the said several companies by the Common Council of the City of Brooklyn, with the intent (in some cases expressly so stated by the said Common Council) that there should be competition among the various companies manufacturing and supplying gas within the said city, in order that no one company should have a sole and exclusive monopoly for supplying

gas to the public and private consumers, nor the consequential power of charging the highest price allowed by law.

4. That on and prior to said November 4, 1895, the said companies were the only corporations manufacturing and supplying gas for illuminating and heating purpose in the city of Brooklyn; that they were active competitors within the said city, and were in a great many instances supplying gas to and along the same streets; two or more of said companies having parallel lines of pipes within the same streets.

5. That by reason of said competition in trade and in the manufacturing and supplying of said gas for illuminating and heating purposes, a good and superior gas was manufactured by the said companies and was supplied to private consumers within the City of Brooklyn, at less than $1.25 per thousand cubic feet of gas, and was supplied to the municipality at the rate of less than one dollar per thousand [fol. 2367] cubic feet of gas.

6. That shortly prior to the last mentioned date, by reason of said competition in trade, the price of the gas was greatly reduced by certain of said companies to such extent that the said companies supplied gas to private consumers at and for the rate of ninety cents per thousand cubic feet; said gas being of the same quality as theretofore.

7. Upon information and belief, that prior to September 9, 1895, the price of gas having been reduced as aforesaid by said competition, to ninety cents per thousand cubic feet, the said Williamsburgh Gas Light Company, the Fulton Municipal Gas Company, the Nassau Gas Light Company, the People's Gas Light Company, the Metropolitan Gas Light Company, the Citizens Gas Company and the Brooklyn Gas Light Company, and John Doe and Richard Roe and other persons to your petitioner unknown, with the intent to evade the prohibitions of the common law and the Stock Corporation law and the other laws of this State against monopolies and trusts, and with the intent to restrain trade and to prevent competition, and unlawfully combine into a monopoly or trust and to deteriorate the quality of gas and to increase and control the price thereof and to be in a position to compel the public and private consumers

within the said city to take gas from the said monopoly or trust, of the quality which they might see fit to furnish for the price which they might see fit to exact, or go without it, entered into an agreement wherein and whereby the said companies and persons wrongfully combined to and did increase the price of gas from ninety cents per thousand [fol. 2368] cubic feet to $1.25 per thousand cubic feet, the highest price allowed by law, and thereafter and on or about September 9, 1895, with the intent and purposes aforesaid, and in further pursuance of the said unlawful combination, they unlawfully caused a new corporation to be incorporated under the laws of the State of New York, under the name of the Brooklyn Union Gas Company, which company was incorporated with a capital stock of $15,000,000. That thereupon the said companies and the directors thereof, with the intent and purposes aforesaid and in further pursuance of said unlawful combination, did unlawfully caused to be conveyed unto the said Brooklyn Union Gas Company all property, rights, privileges, immunities, franchises, plants and assets of each of the said companies as going concerns and the said Brooklyn Union Gas Company purported and pretended to pay therefor $15,000,000 par value of its capital stock, being the whole thereof and $15,000,000 of its consolidated mortgage five per cent. bonds, which were issued in anticipation of the purchase of the plant and property of the said companies, but did not in fact pay the same or any consideration to said companies for said transfers.

8. That in fact the said Brooklyn Union Gas Company did not so purchase of said Companies the property, rights, privileges, immunities, franchises, plants and assets of said companies for said stock and bonds, but, on the contrary thereof, that the said $15,000,000 of stock and $15,000,000 of bonds were deposited by the said Brooklyn Union Gas Company with the New York Guaranty and Indemnity Company, in trust, to be delivered to the stockholders and bondholders of the said Williamsburg Gas Light Company, Fulton Municipal Gas Company, Nassau Gas Company, Peoples Gas Light Company, Metropolitan Gas Light Company, Citizens Gas Company and the Brooklyn Gas Light Company, in exchange for stocks and bonds of the said last mentioned companies, and the said stock and bonds

[fol. 2369] have been, in part, so exchanged with some of the said stockholders, except about $500,000 of the said bonds, which are held by the said Trust Company to be used for betterments and improvements.

9. That the said combination was not and is not such a consolidation of the said companies as is authorized by the provisions of the Business or Transportation Corporations Law, or any law of this State, but is unauthorized and unlawful.

10. That the said Brooklyn Union Gas Company thereupon entered into possession of all the property, rights, privileges, immunities, franchises, plants and assets so conveyed to it by the said other gas companies, and has manufactured gas in various of said plants of said companies in the said city since said November 4, 1895.

11. That by the said combination competition in the manufacturing and supplying of gas has been wholly stifled within the said city, and, as your petitioner is informed and believes, the use of certain lines of pipe within the said city has been wholly discontinued.

12. That the said Brooklyn Union Gas Company, immediately upon entering into possession of the plants of the said other companies, did proceed to shut down a number of the said plants and to disintegrate the same and to sell a portion of the real estate and property upon which the said plants were and especially in cases where two or more companies had been the most active competitors the said Brooklyn Union Gas Company shut down, disintegrated and ceased to operate the said competing plants, and refused to supply gas therefrom to the public and private consumers of the said City of Brooklyn.

13. That immediately after the said November 4, 1895, the said unlawful combination, in the name of the said Brooklyn Union Gas Company, began to manufacture and it has ever since manufactured and supplied within the said [fol. 2370] City of Brooklyn a quality of gas far inferior, and of less illuminating power than the quality which the said several companies respectively, furnished prior to said combination, and of less power than prescribed by law; and the gas so furnished by the said unlawful combination

is of such poor quality that it is a menace to the public health; that the price for said gas had been maintained at the increased price of $1.25 per thousand cubic feet, the maximum rate allowed by law; that it is almost a universal complaint within the said city today, that the gas bills are higher than they were prior to said combination, because the gas so furnished burns in greater volume while giving less light.

14. That prior to said combination consumers within the said city were at liberty to discontinue their purchasing of gas from any one company, if they were displeased with the quality or price thereof, and to make application and to compel another of said gas companies to supply gas to them, and the aforesaid companies therefore endeavored to maintain and did maintain a high standard and quality in the gas supplied by them, in order to keep their customers.

15. That, although since said combination numerous applications for changes have been made to the said Brooklyn Union Gas Company, and although numerous applications have been made to the officers of the former individual gas companies to put in meters and supply gas manufactured by one of said companies in place of the meters and gas supplied by another of said companies, said applications have been refused and the applicants have been compelled to continue using the gas supplied to them; and the Brooklyn Union Gas Company, through its agents and servants, openly declares that all the companies are now one and that no meters would be changed nor different gas supplied, save that only which was being supplied at the time of said combination, or such as they see fit to supply from [fol. 2371] the plant the said combination may designate.

16. That at all times the City of Brooklyn has been in the habit of lighting the greater portion of its streets and public buildings with gas, and that it has been the custom for a number of years last past to advertise for bids for the furnishing of gas to the said city for the purposes aforesaid. That at such times as the said city did advertise for bids prior to the said combination a number of bids were received from the said gas companies other than the Brooklyn Union Gas Company, and that the said bids varied in price and the city awarded the contract for the supplying

of gas aforesaid to the lowest bidder. That since the said combination the said competition has been stifled, and whereas the city has been in the habit of obtaining gas at less than ninety cents per thousand cubic feet, since the said combination it has been charged by the said combination the sum of $1.25 per thousand.

17. That prior to said combination the said companies other than the Brooklyn Union Gas Company had officers distinct and separate from one another and had plants for the manufacture and pipes for the supply of gas distinct and separate from one another; but that since said combination the Brooklyn Union Gas Company controls the manufacture and supply of the various plants and uses the said offices, as branch offices of said Brooklyn Union Gas Company, and the contracts for gas are made out in the name of The Brooklyn Union Gas Company, referring to the branches as the "Williamsburg Branch," or as the case may be, and the bills are payable at the "Williamsburgh Branch," or as the case may be; and the said companies have refused and in many cases still do refuse to supply gas from certain of the said plants, in violation of the charters of said companies and of law.

18. That the said Williamsburgh Gas Light Company Fulton Municipal Gas Company, Nassau Gas Light Company, Peoples Gas Light Company, Metropolitan Gas Light Company, Citizens Gas Company and the Brooklyn Gas Light [fol. 2372] Company have none of them been dissolved, but each is still in existence, maintaining its individual corporate existence, board of directors and officers, and that each and every the said companies has violated its charter, and has so done since on or about November 4, 1895, by wholly refusing and neglecting to exercise any of its corporate powers or to supply gas in the said City of Brooklyn or to the public, or to anyone.

Wherefore your petitioner prays that you will forthwith commence proceedings to vacate the charters and to annul the existence of each and every of the said corporations, to wit: The Brooklyn Union Gas Company, the Williamsburgh Gas Light Company, the Fulton Municipal Gas Company, the Nassau Gas Light Company, the Peoples Gas Light Com-

pany, the Metropolitan Gas Light Company, the Citizens Gas Company and the Brooklyn Gas Light Company, under the provisions of §1798 of the Code of Civil Procedure, of §7 of the stock Corporation Law, and of the Chapter 716 of the Laws of 1893, as amended by Chapter 267 of the Laws of 1896; and that you will also, under the provisions of said laws, take proceedings to restrain each and every of said corporations from the continued violation of the laws against trusts, monopolies and combinations and conspiracies for the purpose of restraining or preventing com petition.

And your petitioner will ever pray, etc.

John C. Lester, Petitioner. Grout, De Fere & Mayer, Attorneys for Petitioner, 189 Montague St. Brooklyn, N. Y.

Dated June 27th, 1896.

[fol. 2373] County of Kings,
City of Brooklyn, ss:

John C. Lester, the petitioner, being duly sworn, says that the foregoing petition is true to his own knowledge, except those matters therein stated to be alleged on information and belief, and as to those matters he believes it to be true.

John C. Lester.

Sworn to before me, June 27, 1896. Paul Grout, Notary Public Kings Co.

[fol. 2374] BEFORE THE ATTORNEY-GENERAL, STATE OF NEW YORK

In the Matter of the petition of JOHN C. LESTER to the Attorney-General of the State of New York to institute proceedings against The Brooklyn Union Gas Company, Williamsburgh Gas Light Company, Fulton Municipal Gas Company, Nassau Gas Light Company, People's Gas Light Company, Metropolitan Gas Light Company, Citizens' Gas Company and The Brooklyn Gas Light Company, to annul their charters and to restrain each and every one of said corporations from continued violation of the laws against trusts, monopolies and combinations and conspiracies for the purpose of unlawfully restraining trade.

ANSWER OF THE BROOKLYN UNION GAS COMPANY

The Brooklyn Union Gas Company respectfully calls the attention of the Attorney-General to the annexed clipping from "Brooklyn Daily Eagle" of June 29th, 1896, containing interviews by a reporter of the said newspaper with the petitioner, his attorneys and one of their clerks concerning this application to the Attorney-General. Therein it is stated that the petitioner is a stockholder in the Mutual Gas Light Company, and that the petitioner's attorneys are attorneys for that Company, and that this application [fol. 2375] against The Brooklyn Union Gas Company is made in its interest.

The Mutual Gas Light Company is located in the City of Brooklyn, and is organized to make and sell gas.

The Brooklyn Union Gas Company submits to the Attorney-General that an application for such purposes should not be heard by the Attorney-General, and also submits that the petition does not state facts sufficient to warrant proceedings by the Attorney-General. It, however, presents to the Attorney-General its answer as follows:

I. It admits the allegations made in the paragraphs of the petition numbered 1.

II. It denies the allegations made in the paragraphs numbered 3, 9 and 11.

III. Answering the paragraph numbered 2: It admits the allegations made therein, except the allegation that all of the said companies were operating their plants. It alleges, upon information and belief, that the Peoples Gas Light Company was not operating its plant, nor was it manufacturing gas. It purchased its supply of gas from the Fulton Municipal Gas Company.

IV. It denies the allegations made in the paragraph numbered 4. Upon information and belief this Company alleges that, in addition to the companies mentioned in the petition, there were organized and existing and doing business in the City of Brooklyn the Flatbush Gas Company and The Kings County Gas Company. There were also The Equity Gas Light Company, of the Eastern District of the City of Brooklyn, and the Mutual Gas Light Company, organized for the same purposes. It is admitted that the Companies named in the petition were the principal companies doing business in the City of Brooklyn.

[fol. 2376] V. Answering the allegations made in paragraph 5, it is admitted that a good and superior gas was manufactured by the said companies and was supplied to private consumers and to the City of Brooklyn. Upon information and belief, it is denied that, during any part of the year 1895, there was competition in trade or in the manufacture and supply of gas between the companies named, and it is denied that during the year 1895 gas was sold to private consumers at less than $1.25 per thousand cubic feet.

VI. The allegations made in the paragraph numbered 6 are denied. Upon information and belief this company alleges, upon information and belief, as follows:

It is true that from May 1st to December 1st, 1894, the price of gas was less than $1.25 per thousand cubic feet. It was $1 in May and June and $0.90 in July, August, September, October and November. There was during that period what is commonly called a "gas war" between the several companies mentioned in the petition. It was not a competition in trade. It resulted from a dispute over certain contracts, the details of which are not known to the Brooklyn Union Gas Company. It was waged to prevent

competition and to confine each company to the district theretofore occupied by it. The "gas war" ended December 1st, 1894. Prices were restored to $1.25 per thousand cubic feet and were maintained throughout the year 1895 and until the time of the purchases and sales hereinafter referred to.

VII. The allegations made in the paragraph of the petion numbered 7 are denied.

Specifically this Company denies any combination, conspiracy or collusion to evade or defeat any law against monopolies or trusts and any intent to restrain trade, prevent competition or to unlawfully combine into a monopoly or trust.

[fol. 2377] This Company was incorporated under Article VI of the Transportation Corporations Law. Its certificate dated September 7th, 1895, was filed in the office of the Secretary of State September 9th, 1895, and in the County Clerk's office in Brooklyn September 10th, 1895. The objects of the Company as stated in its certificate of incorporation are: "Manufacturing and supplying gas for lighting the streets, and public and private buildings in the City of Brooklyn, County of Kings and State of New York and manufacturing and using electricity for producing light, heat or power, and in lighting the streets, avenues, public parks and places and public and private buildings of cities, villages and towns within said State." Its capital is $15,000,000.

It is true that this Company purchased from each of the other companies mentioned in the petition its property, rights, privileges immunities, franchises, plant and assets, and paid therefor in the stock and bonds of The Brooklyn Union Gas Company, and went into possession thereof on or about November 5th, 1895.

This Company specifically denies that it was incorporated in pursuance of any unlawful combination or with purpose to evade or defeat any law or public policy or to control prices or to restrain trade or prevent competition, or that it made the purchases or took the conveyances from the other companies for any such purpose. The stockholders of the seven companies were largely the same. The seven companies were maintaining eight plants and seven sets of

executive officers and agents to do work which could be as well done and far more cheaply by one set of officers and agents and five plants or even a less number. By combining the properties and business of the seven companies in one ownership, unnecessary properties and expenses could [fol. 2378] be dispensed with and the entire business could be conducted with much greater economy and with greater profits, though the rates charged for gas should continue the same or be reduced. The purpose of the purchases was to get the benefit of such consolidation.

This Company was advised by its attorneys, after careful consideration and conference with counsel representing the several vendor companies, that Section 33 of the Stock Corporation Law authorized the purchases and sales hereinbefore referred to.

This Company denies that it has deteriorated the quality of gas supplied to consumers. The quality and illuminating power of gas has been higher under this Company than ever before. It has not increased the price of gas to consumers, and by increasing the candle-power and illuminating power of gas it has in effect decreased the price to consumers. The price of gas has been $1.25 per thousand cubic feet from 1890, when it was reduced by law to that price except for seven months in 1894, during the gas war hereinbefore referred to.

VIII. In answer to the allegations made in the paragraph of the petition numbered 8 The Brooklyn Union Gas Company submits to the Attorney-General certified copies of the records of the proceedings between it and the companies from which it purchased, and of the contracts between it and the said several companies and of the deeds to it.

IX. Answering the paragraph of the petition numbered 12: About six months after the conveyances aforesaid The Brooklyn Union Gas Company has sold the works formerly belonging to the People's Gas Company, retaining the holders and real estate therefor. Since the petition herein was filed it has ceased to operate the plant formerly belonging to the Brooklyn Gas Light Company, and has offered it for sale [fol. 2379] except the real estate upon which the holders stand. It also in the spring of 1896 ceased to operate the plant of the Citizens' Gas Light Company in East New

York. Upon information and belief this Company alleges that the People's Gas Light Company did not manufacture for ten years prior to the conveyance to The Brooklyn Union Gas Company; but on the contrary purchased its gas from the Fulton Municipal Gas Company. Its plant was antiquated and only the holders were in good condition. Consumers who formerly purchased their gas from The Peoples Gas Light Company and The Brooklyn Gas Light Company now receive gas made in the works formerly of the Fulton Municipal Gas Company. The East New York plant which has been discontinued was a small suburban plant. Gas is supplied to East New York consumers from the Nassau plant, a modern plant, which supplies gas of better quality than was manufactured in the East New York plant. Except as herein admitted, the allegations of paragraph 12 are denied.

X. Answering paragraph of the petition numbered 13 upon information and belief derived from and based upon statements and certificates of officers and agents of this Company having immediate charge of these matters: It is not true that the quality of gas manufactured by The Brooklyn Union Gas Company has been or is inferior to the gas manufactured prior to November 4th, 1895, by the other companies named in the petition. The gas is better in quality and has a higher illuminating power. The candle-power prescribed by law is twenty candle-power. The gas furnished to consumers by The Brooklyn Union Gas Company has averaged over twenty-eight candle-power. It is not true that the quality of gas makes it a menace to the public health. It is not true that there is "almost a universal complaint within the City to-day that gas bills are higher than they were prior to the said combination." The [fol. 2380] Brooklyn Union Gas Company is in constant communication with all of its customers throughout the City of Brooklyn. There were complaints in some districts immediately after the conveyances to The Brooklyn Union Gas Company. All complaints were investigated and their causes removed, and during the year 1896 there have been fewer complaints from consumers than ever before, so far as The Brooklyn Union Gas Company is advised. It is not true that the gas furnished burns in greater volume or that it gives less light. The quality of gas consumed is wholly

within the control of the consumer. The candle-power of the gas has been subjected to photometric tests each and every day by its employees and from time to time by experts not connected with the Company, which report the Company submits for the inspection of the Attorney-General. The average of the candle-power of the gas supplied has been above 28 candle-power.

XI. Answering the paragraph of the petition numbered 15 upon like information and belief: The Brooklyn Union Gas Company denies that since it entered into possession of the several gas plants mentioned in the petition, numerous applications for changes have been made to it. There have been applications. In almost every case when the facts were explained to the applicant, he was satisfied and withdrew his request.

XII. Answering paragraph numbered 16 upon information and belief: The City of Brooklyn has not advertised for bids since the formation of The Brooklyn Union Gas Company. Prior to its formation, as this Company is informed and believes, the several other companies mentioned in the petition, except the Fulton Municipal Gas Company, submitted bids, but each confined itself to a specified territory, and there never was any competition between the several companies. The Brooklyn Union Gas Company has solicited the officers of the City to contract [fol. 2381] with it, and has offered and is now ready to contract at prices lower than were ever obtained by the City. This Company has also offered to reduce the price of gas to private consumers and to the City of Brooklyn, and to make a contract with the City for such reduction under Chapter 990 of the Laws of 1895.

Wherefore The Brooklyn Union Gas Company prays that the petition be dismissed.

The Brooklyn Union Gas Company, by Chas. H. Stoddard, Assistant Treasurer.

City of Brooklyn,
County of Kings, ss:

Charles H. Stoddard, being duly sworn, says that he is the Assistant Treasurer of the Brooklyn Union Gas Company above named; that the foregoing answer is true to

his own knowledge, except as to the matters therein stated to be alleged upon information and belief, and that as to those matters he believes it to be true; that the reason this verification is not made by said Company is that it is a corporation and deponent an officer thereof, to wit, Assistant Treasurer, and that the grounds of his belief as to all matters not stated upon his knowledge are the possession of the papers and documents mentioned in said answer and information derived by him in the administration of his duties as such officer.

Chas. H. Stoddard.

Sworn to before me this 7th day of August, 1896.
Sam'l R. Probasco, Notary Public, Kings County.

[fol. 2382] In the Matter of the Petition of JOHN C. LESTER to the Attorney-General to institute proceedings to annul the charters of the Williamsburgh Gas Light Company, Fulton Gas Light Company, Nassau Gas Light Company, Peoples Gas Light Company, Metropolitan Gas Light Company, Citizens Gas Company, the Brooklyn Gas Light Company, and The Brooklyn Union Gas Company.

DECISION OF ATTORNEY GENERAL

It appears from the papers presented upon the hearing that prior to November 1st, 1895, there had been organized the eight companies above named, and also the Flatbush Gas Company, the Kings County Gas Company, the Equity Gas Light Company and the Mutual Gas Light Company, for the ostensible purpose of supplying gas to the City of Brooklyn and adjacent territory. The first seven of said companies, through the operation of their various mains, furnished the major portion of the gas supply for the City of Brooklyn. On or about November 1st, 1895, the Brooklyn Union Gas Company purchased the property and franchises of these seven companies. The sales in question were made in accordance with the provisions of Chapter 638, Laws of 1893 (sec. 33, Stock Corporation Law) which permit companies of this character to convey their property, privileges and franchises to corporations engaged in busi-
[fol. 2383] ness of the same general character. The formalities required by the statute were followed: Consolida-

tions of Gas and Electric Light Corporations organized under Article Six of the Transportation Corporation Law, or under any general or special law of the State are specifically permitted by statute, the same general rule applies to all kinds of business corporations. (Business Corporations Law, sec. 5.) These statutes, however, contemplate the merging of the Consolidating Corporations into a single, new corporation, in place of those formerly in existence.

Corporations which have transferred their property and franchises ought not to be permitted to continue the semblance of corporate life, especially when they have suspended their ordinary and lawful business beyond the time permitted by law. Actions will therefore be commenced in the name of the People to dissolve the seven companies which have disposed of their corporate rights and property.

Dated, November 2, 1896.

T. E. Hancock, Attorney-General.

I hereby certify that the above is a correct copy of the decision rendered in the above entitled application and of the whole thereof.

(Sgd.) J. Einklestein, Hearing Stenographer, Attorney-General's Office, the Capitol, Albany, N. Y. (Seal.)

Dated December 7th, 1923.

[fol. 2384] **Plaintiff's Exhibit 83**

SUPREME COURT, ALBANY COUNTY

THE PEOPLE OF THE STATE OF NEW YORK

against

PEOPLES GAS LIGHT COMPANY

STATE OF NEW YORK,
City and County of Albany, ss:

Theodore E. Hancock, being duly sworn, deposes and says: I am Attorney-General of the State of New York, Attorney for the plaintiff in the above entitled action. The

summons and complaint in said action were served on the defendant on the 10th day of November, 1896. Defendant has appeared in said action, but no answer or demurrer has been served on behalf of said defendant, and the time to answer or demur to the complaint herein has expired.

T. E. Hancock.

Sworn to before me this 10th day of December, 1896.
W. M. Thomas, Notary Public, Albany Co.

[fol. 2385] SUPREME COURT

At a Special Term of the Supreme Court Held at the Court House, in the City of Albany, N. Y., on the 10th Day of December, 1896

Present: Hon. Alden Chester, Justice.

THE PEOPLE OF THE STATE OF NEW YORK

against

PEOPLES GAS LIGHT COMPANY

FINDINGS OF FACT AND JUDGMENT

This action having been brought for a dissolution of the franchises of the above named defendant, on the ground of non-user, and summons and complaint having been served on the defendant herein on the 10th day of November, 1896, and said defendant having appeared in said action, but having failed to answer or demur therein, as appears by the affidavit of Theodore E. Hancock, Attorney-General, presented herewith, and application having been made on behalf of the plaintiffs for judgment, the Court does find the following facts:

1

First. At the several times herein referred to the defendant, Peoples Gas Light Company, was and still is a domestic corporation, duly organized under the laws of the State of New York, for the purpose of manufacturing and supplying gas for illuminating and heating purposes within or adjacent to the City of Brooklyn, in said State, and

[fol. 2386] having a principal office for its place of business in or near said City of Brooklyn.

Second. That defendant as such corporation down to about the first day of November, 1895, operated the franchises conferred upon it by law in the manufacturing and supplying gas for illuminating and heating purposes.

Third. That on or about November 4th, 1895, the defendant herein ceased the business of manufacturing and supplying gas for illuminating and heating purposes, and has not since that day exercised the franchises conferred upon it by law, but has suspended its original and lawful business, for a period of one year, prior to the commencement of this action, and has failed for one year last past to exercise the powers granted to it by its charter and the laws of this State, and had disposed of all of its property, and the right to exercise the franchises acquired by it at the time of its organization.

Fourth. That since defendant herein ceased the operation of its original and lawful business, it has disposed of all of its property and assets, and there is not at this time any assets or property belonging to said defendant in law or in equity.

As Matters of Law

First. The plaintiffs herein are entitled to judgment against the defendant, dissolving the defendant corporation, and forfeiting its rights, charter, franchises and privileges, restraining the defendant, its officers and agents from exercising any corporate powers, privileges and franchises, together with costs of this action to be taxed.

Alden Chester, J. S. C.

[fol. 2387] SUPREME COURT

At a Special Term of the Supreme Court, State of New York, Held at the Court House, in the City of Albany, N. Y., on the 10th Day of December, 1896

Present: Hon. Alden Chester, Justice.

THE PEOPLE OF THE STATE OF NEW YORK

against

PEOPLES GAS LIGHT COMPANY

Judgment

The summons and complaint in this action having been duly served on the defendant herein, on the 10th day of November, 1896, and said defendant having appeared, but having made default in answering or demur-ing, and application having been made to this Court at the above term for judgment, and Court having taken proof of the facts alleged in the complaint, and made findings of fact and law thereon,

Now, upon reading and filing summons and complaint and proof of service thereof, together with proof of default, and the findings made herein, and

On Motion of Theodore E. Hancock, Attorney-General of the State of New York, Attorney for the plaintiffs, and Bergen & Dykman, Attorneys for defendant appearing and not objecting, it is

Adjudged and decreed, that the defendant, Peoples Gas [fol. 2388] Light Company, be, the same hereby is dissolved, and its corporate rights, privileges and franchises forfeited.

It is further adjudged and decreed, that the defendant, Peoples Gas Light Company, its trustees, directors, managers, other officers and agents be, and each of the- hereby is forever restrained and enjoined from exercising any of the corporate franchises, rights or privileges of the defendant, or from in any manner interfering with or disposing of the franchises of said defendant.

It is further adjudged and decreed that plaintiffs recover from defendant the sum of $25.50 cost and disbursements.

Enter.

Alden Chester, J. S. C. J. M. Borthwick, Clerk.

[fol. 2389] STATE OF NEW YORK,
County of Albany, ss:

Clerk's Office

I, George R. Happ, Clerk of the said County, and also Clerk of the Supreme and County Courts, being Courts of Record held therein, do hereby certify that I have compared the annexed copy Affidavit, Findings & Judgment with the original thereof filed in this office on the 10th day of December, 1896, and that the same is a correct transcript therefrom, and of the whole of said original.

In testimony whereof, I have hereunto set my hand and affixed my official seal this 7th day of December, 1923.

(Sgd.) George R. Happ, Clerk.

[fol. 2390] SUPREME COURT

THE PEOPLE OF THE STATE OF NEW YORK

against

NASSAU GAS LIGHT COMPANY

STATE OF NEW YORK,
City and County of Albany, ss:

Theodore E. Hancock, being duly sworn, says: I am Attorney General of the State of New York, Attorney for the plaintiffs in the above entitled action. The summons and complaint in said action were served on the defendant on the 10th day of November, 1896. Defendant has appeared in said action, but no answer or demurrer has been served on behalf of the defendant, and the time to answer or demur to the complaint herein has expired.

T. E. Hancock.

Sworn to before me this 10th day of December, 1896.
W. M. Thomas, Notary Public, Albany Co.

[fol. 2391] SUPREME COURT

At a Special Term of the Supreme Court, at the Court House, in the City of Albany, N. Y., on the 10th Day of December, 1896.

Present: Hon. Alden Chester, Justice.

THE PEOPLE OF THE STATE OF NEW YORK

against

NASSAU GAS LIGHT COMPANY

FINDINGS OF FACT AND JUDGMENT

This action having been brought for a dissolution of the franchises of the above named defendant, on the ground of non-user, and summons and complaint having been served on the defendant herein on the 10th day of November, 1896, and said defendant having appeared in said action, but having failed to answer or demur thereon, as appears by the affidavit of Theodore E. Hancock, Attorney-General, presented herewith, and application having been made on behalf of the plaintiffs for judgment, the Court does find the following facts:

I

First. At the several times herein referred to the defendant, Nassau Gas Light Company, was and still is a domestic corporation, duly organized under the laws of the State of New York, for the purpose of manufacturing and supplying gas for illuminating and heating purposes within or adjacent to the City of Brooklyn, in said State, and having a principal office for its place of business in or near said City of Brooklyn.

[fol. 2392] Second. That defendant as such corporation down to about the first day of November, 1895, operated the franchises conferred upon it by law in the manufacturing and supplying gas for illuminating and heating purposes.

Third. That on or before November 4, 1895, the defendant herein ceased the business of manufacturing and sup-

plying gas for illuminating and heating purposes, and has not since that day exercised the franchises conferred upon it by law, but has suspended its original and lawful business for a period of one year prior to the commencement of this action, and has failed for one year last past to exercise the powers granted to it by its charter and the laws of this State, and has disposed of all of its property, and the right to exercise the franchises acquired by it at the time of its organization.

Fourth. That since defendant herein ceased the operation of its original and lawful business, it has disposed of all of its property and assets, and there is not at this time any assets or property belonging to said defendant in law or in equity.

As Matters of Law

First. The plaintiffs herein are entitled to judgment against the defendant dissolving the defendant corporation and forfeiting its rights, charters, franchises and privileges, restraining the defendant, its officers and agents from exercising any corporate powers, privileges and franchises, together with costs of this action to be taxed.

Alden Chester, J. S. C.

[fol. 2393] SUPREME COURT

At a Special Term of the Supreme Court, State of New York, Held at the Court House, in the City of Albany, N. Y., on the 10th Day of December 1896

Present: Hon. Alden Chester, Justice.

THE PEOPLE OF THE STATE OF NEW YORK

against

NASSAU GAS LIGHT COMPANY

Judgment

The summons and complaint in this action having been duly served on the defendant herein, on the 10th day of November, 1896, and said defendant having appeared, but having made default in answering or demurring, and ap-

plication having been made to this Court at the above term for judgment, and the Court having taken proof of the facts alleged in the complaint, and made findings of fact and law thereon,

Now, upon reading and filing summons and complaint and proof of service thereof, together with proof of default, and the findings made herein, and

On Motion of Theodore E. Hancock, Attorney-General of the State of New York, Attorney for the plaintiffs, and Bergen & Dykman, Attorneys for defendant, appearing and not objecting it is

Adjudged and decreed that the defendant, Nassau Gas Light Company, be, and the same is hereby dissolved, and its corporate rights, privileges and franchises forfeited.

It is further adjudged and decreed, that the defendant, [fol. 2394] Nassau Gas Light Company, its trustees, directors, managers, other officers and agents, be, and each of them hereby is forever restrained and enjoined from exercising any of the corporate franchises, rights or privileges of the defendant, or from in any manner interfering with or disposing of the franchises of said defendant.

It is further adjudged and decreed that the plaintiffs recover from defendant the sum of $25.50 costs and disbursement.

Enter.

Alden Chester, J. S. C. J. M. Borthwick, Clerk.

[fol. 2395] State of New York,
County of Albany, ss:

Clerk's Office

I, George R. Happ, Clerk of the said County, and also Clerk of the Supreme and County Courts, being Courts of Record held therein, do hereby certify that I have compared the annexed copy Affidavit, Findings & Judgment with the original thereof filed in this office on the 10th day of December, 1896, and that the same is a correct transcript therefrom, and of the whole of said original.

In testimony whereof, I have hereunto set my hand and affixed my official seal this 7th day of December, 1923.

(Sgd.) George R. Happ, Clerk.

[fol. 2396] SUPREME COURT, ALBANY COUNTY

THE PEOPLE OF THE STATE OF NEW YORK

against

BROOKLYN GAS LIGHT COMPANY

STATE OF NEW YORK,
City and County of Albany, ss:

Theodore E. Hancock, being duly sworn, says: I am Attorney-General of the State of New York, Attorney for the plaintiffs in the above entitled action. The summons and complaint in said action were served on the defendants on the 10th day of November, 1896. Defendant has appeared in said action, but no answer or demurrer has been served on behalf of said defendant, and the time to answer or demur to the Complaint herein has expired.

T. E. Hancock.

Sworn to before me this 10th day of December, 1896.
W. M. Thomas, Notary Public, Albany Co.

[fol. 2397] SUPREME COURT

At a Special Term of the Supreme Court Held at the Court House, in the City of Albany, N. Y., on the 10th Day of December, 1896

Present: Hon. Alden Chester, Justice.

THE PEOPLE OF THE STATE OF NEW YORK

against

BROOKLYN GAS LIGHT COMPANY

FINDINGS OF FACT AND JUDGMENT

This action having been brought for a dissolution of the franchises of the above named defendant, on the ground of non-user, and summons and complaint having been served on the defendant herein on the 10th day of November, 1896, and said defendant having appeared in said action, but having failed to answer or demur therein, as appears by the affidavit of Theodore E. Hancock, Attorney-

General, presented herewith, and application having been made on behalf of the plaintiffs for judgment, the Court does find the following facts:

1

First. At the several times herein referred to the defendant, Brooklyn Gas Light Company, was and still is a domestic corporation, duly organized under the laws of the State of New York, for the purpose of manufacturing and supplying gas for illuminating and heating purposes within or adjacent to the City of Brooklyn, in said State, and hav-[fol. 2398] ing a principal office for its place of business in or near said City of Brooklyn.

Second. That defendant as such corporation down to about the first day of November, 1895, operated the franchises conferred upon it by law in the manufacturing and supplying gas for illuminating and heating purposes.

Third. That on or about November 4th, 1895, the defendant herein ceased the business of manufacturing and supplying gas for illuminating and heating purposes, and has not since that day exercised the franchises conferred upon it by law, but has suspended its original and lawful business for a period of one year prior to commencement of this action, and has failed for one year last past to exercise the powers granted to it by its charter and the laws of this State, and has disposed of all of its property, and the right to exercise the franchises acquired by it at the time of its organization.

Fourth. That since defendant herein ceased the operation of its original and lawful business, it has disposed of all of its property and assets, and there is not at this time any assets or property belonging to said defendant in law or in equity.

As Matters of Law

First: The plaintiffs herein are entitled to judgment against the defendant dissolving the defendant corporation and forfeiting its rights, charter, franchises and privileges, restraining the defendant, its officers and agents from

exercising any corporate powers, privileges and franchises, together with costs of this action to be taxed.

Alden Chester, J. S. C.

[fol. 2399] SUPREME COURT

At a Special Term of the Supreme Court, State of New York, Held at the Court House, in the City of Albany, N. Y., on the 10th day of December, 1896.

Present: Hon. Alden Chester, Justice.

THE PEOPLE OF THE STATE OF NEW YORK

against

BROOKLYN GAS LIGHT COMPANY

Judgment

The summons and complaint in this action having been duly served on the defendant herein, on the 10th day of November, 1896, and said defendant having appeared, but having made default in answering or demurring, and application having been made to this Court at the above term for judgment, and the Court having taken proof of fact and law thereon,

Now, upon reading and filing summons and complaint and proof of service thereof, together with proof of default, and the findings made herein, and

On Motion of Theodore E. Hancock, Attorney-General of the State of New York, Attorney for the plaintiffs, and Bergen & Dykman, Attorneys for defendant appearing and not objecting, it is

Adjudged and decreed Brooklyn Gas Light Company, be and the same is hereby dissolved, and its corporate rights, privileges and franchises forfeited.

[fol. 2400] It is further adjudged and decreed that the defendant, Brooklyn Gas Light Company, its trustees, directors, managers, other officers and agents be, and each of them hereby is forever restrained and enjoined from exercising any of the corporate franchises, rights or privileges of the defendant, or from any manner interfering with or disposing of the franchises of said defendant.

It is further adjudged and decreed that the plaintiffs recover from defendant the sum of $25.50 costs and disbursements.

Enter.

Alden Chester, J. S. C. J. M. Borthwick, Clerk.

[fol. 2401] State of New York,
County of Albany, ss:

Clerk's Office

I, George R. Happ, Clerk of the said County, and also Clerk of the Supreme and County Courts, being Courts of Record held therein, Do Hereby Certify that I have compared the annexed copy Affidavit, Findings & Judgment with the original thereof filed in this office on the 10th day of December, 1896, and that the same is a correct transcript therefrom, and of the whole of said original.

In testimony whereof, I have hereunto set my hand and affixed my official seal this 7th day of December 1923.

(Sgd.) George R. Happ, Clerk.

[fol. 2402] Supreme Court, Albany County

The People of the State of New York

against

Williamsburgh Gas Light Company

State of New York,
City and County of Albany, ss:

Theodore E. Hancock, being duly sworn, says: I am Attorney-General of the State of New York, Attorney for the plaintiffs in the above entitled action. The summons and complaint in said action were served on the defendant on the 11th day of November, 1896. Defendant has appeared in said action, but no answer or demurrer has been served on behalf of said defendant, and the time to answer or demur to the complaint herein has expired.

T. E. Hancock.

Sworn to before me this 10th day of December, 1896.
W. M. Thomas, Notary Public, Albany Co.

[fol. 2403] SUPREME COURT

At a Special Term of the Supreme Court, at the Court House, in the City of Albany, N. Y., on the 10th Day of December, 1896.

Present: Hon. Alden Chester, Justice.

THE PEOPLE OF THE STATE OF NEW YORK

against

WILLIAMSBURGH GAS LIGHT COMPANY

FINDINGS OF FACT AND JUDGMENT

This action having been brought for a dissolution of the franchises of the above named defendant, on the ground of nonuser, and summons and complaint having been served on said defendant on the 11th day of November, 1896, and said defendant having appeared in said action, but having failed to answer or demur therein, as appears by the affidavit of Theodore E. Hancock, Attorney-General, presented herewith, and application having been made on behalf of the plaintiff for judgment, the Court does find the following facts:

1

First. At the several times herein referred to the defendant, Williamsburgh Gas Light Company, was, and still is a domestic corporation, duly organized under the Laws of the State of New York, for the purpose of manufacturing and supplying gas for illuminating and heating purposes within or adjacent to the City of Brooklyn, in said State, [fol. 2404] and having a principal office for its place of business in or near said City of Brooklyn.

Second. That defendant, as such corporation, down to about the first day of November, 1895, operated franchises conferred upon it by law in the manufacturing and supplying gas for illuminating and heating purposes.

Third. That on or about November 4th, 1895, the defendant herein ceased the business of manufacturing and supplying gas for illuminating and heating purposes, and has not since that day exercised the franchises conferred upon it by law, but has suspended its original and lawful business for a period of one year prior to the commencement of this action, and has failed for one year last past to exercise the powers granted to it by its charter and the laws of this State, and has disposed of all of its property, and the right to exercise the franchises acquired by it at the time of its organization.

Fourth. That since defendant herein ceased the operation of its original and lawful business, it has disposed of all of its property and assets, and there is not at this time any assets or property belonging to said defendant in law or in equity.

As Matters of Law

First. The plaintiffs herein are entitled to judgment against the defendant dissolving the defendant corporation, and forfeiting its rights, charter, franchises and privileges, restraining the defendant, its officers and agents from exercising any corporate powers, privileges and franchises, together with costs of this action to be taxed.

Alden Chester, J. S. C.

[fol. 2405] Supreme Court

At a Special Term of the Supreme Court, State of New York, Held at the Court House, in the City of Albany, N. Y., on the 10th Day of December, 1896

Present: Hon. Alden Chester, Justice.

The People of the State of New York
against
Williamsburgh Gas Light Company

Judgment

The summons and complaint in this action having been duly served on the defendant herein, on the 11th day of November, 1896, and said defendant having appeared, but

having made default in answering or demurring, the application having been made to this Court at the above term for judgment, and the Court having taken proof of the facts alleged in the complaint, and made findings of fact and law thereon.

Now, upon reading and filing summons and complaint and proof of service thereof, together with proof of default, and the findings made herein, and

On Motion of Theodore E. Hancock, Attorney-General of the State of New York, Attorney for the plaintiffs, and Bergen & Dykman, Attorneys for defendant appearing and not objecting, it is

Adjudged and decreed that the defendant, Williams-[fol. 2406] burgh Gas Light Company, be, the same hereby is dissolved, and its corporate rights, privileges and franchises forfeited.

It is further adjudged and decreed that the defendant, Williamsburgh Gas Light Company, its trustees, directors, managers, other officers and agents be, and each of them hereby is forever restrained and enjoined from exercising any of the corporate franchises, rights or privileges of the defendant, or from in any manner interfer-ing with or disposing of the franchises of said defendant.

It is further adjudged and decreed that plaintiffs recover from defendant the sum of $25.50 costs and disbursements.

Enter.

Alden Chester, J. S. C. J. M. Borthwick, Clerk.

[fol. 2407] State of New York,
County of Albany, ss:

Clerk's Office

I, George R. Happ, Clerk of the said County, and also Clerk of the Supreme and County Courts, being Courts of Record held therein, do hereby certify that I have compared the annexed copy Affidavit, Findings & Judgment with the original thereof filed in this office on the 10th day of December, 1896 and that the same is a correct transcript therefrom, and of the whole of said original.

In testimony whereof, I have hereunto set my hand and affixed my official seal this 7th day of December, 1923.

(Sgd.) George R. Happ, Clerk.

[fol. 2408] SUPREME COURT, ALBANY COUNTY

THE PEOPLE OF THE STATE OF NEW YORK

against

CITIZENS GAS COMPANY

STATE OF NEW YORK,
City and County of Albany, ss:

Theodore E. Hancock, being duly sworn says: I am Attorney-General of the State of New York, Attorney for the plaintiffs in the above entitled action. The summons and complaint in said action were served on the defendant on the 10th day of November, 1896. Defendant has appeared in said action, but no answer or demurrer has been served on behalf of said defendant, and the time to answer or demur to the complaint herein has expired.

T. E. Hancock.

Sworn to before me this 10th day of December, 1896.
W. M. Thomas, Notary Public, Albany County.

[fol. 2409] SUPREME COURT

At a Special Term of the Supreme Court, at the Court House, in the City of Albany, N. Y., on the 10th Day of December, 1896

Present: Hon. Alden Chester, Justice.

THE PEOPLE OF THE STATE OF NEW YORK

against

CITIZENS GAS COMPANY

FINDINGS OF FACT AND JUDGMENT

This action having been brought for a dissolution of the franchises of the above named defendant, on the ground of non-user, and summons and complaint having been served on the defendant herein on the 10th day of November, 1896, and said defendant having appeared in this action, but having failed to answer or demur therein, as appears by the

affidavit of Theodore E. Hancock, Attorney-General, presented herewith, and application having been made on behalf of the plaintiffs for judgment, the Court does find the following facts:

1

First. At the several times herein referred to the defendant, Citizens Gas Company, was and still is a domestic corporation, duly organized under the laws of the State of New York, for the purpose of manufacturing and supplying gas for illuminating and heating purposes within or adjacent to the City of Brooklyn, in said State, and having a principal office for its place of business in or near said [fol. 2410] City of Brooklyn.

Second. That defendant, as such corporation, down to about the first day of November, 1895, operated the franchises conferred upon it by law in the manufacturing and supplying gas for illuminating and heating purposes.

Third. That on or about November 4th, 1895, the defendant herein ceased the business of manufacturing and supplying gas for illuminating and heating purposes, and has not since that day exercised the franchises conferred upon it by law, but has suspended its original and lawful business for a period of one year prior to commencement of this action, and has failed for one year last past to exercise the powers granted to it by its charter and the laws of this State, and has disposed of all of its property, and the right to exercise the franchises acquired by it at the time of its organization.

Fourth. That since defendant herein ceased the operation of its original and lawful business, it has disposed of all of its property and assets, and there is not at this time any assets or property belonging to said defendant in law or in equity.

As Matters of Law

First. The plaintiffs herein are entitled to judgment against the defendant dissolving the defendant corporation, and forfeiting its rights, charter, franchises and privileges, restraining the defendant, its officers and agents

from exercising any corporate powers, privileges and franchises together with cost of this action to be taxed.

Alden Chester, J. S. C.

[fol. 2411] At a Special Term of the Supreme Court of the State of New York Held at the Court House, in the City of Albany, N. Y., on the 10th Day of December, 1896

Present: Hon. Alden Chester, Justice.

THE PEOPLE OF THE STATE OF NEW YORK

against

CITIZENS GAS COMPANY

Judgment

The summons and complaint in this action having been duly served on the defendant herein, on the 10th day of November, 1896, and said defendant having appeared, but having made default in answering or demurring, and application having been made to this Court at the above term for judgment, and the Court having taken proof of the facts alleged in the complaint, and made findings of fact and law thereon,

Now, upon reading and filing summons and complaint and proof of service thereof, together with proof of default, and the findings made herein, and

On Motion of Theodore E. Hancock, Attorney-General of the State of New York, Attorney for the plaintiffs, and Bergen & Dykman Attorneys for defendant appearing and [fol. 2412] not objecting, it is

Adjuged and decreed that the defendant, Citizens Gas Company, be, and the same hereby is dissolved, and its corporate rights, privileges and franchises forfeited.

It is further adjudged and decreed that the defendant, Citizens Gas Company, its trustees, directors, managers, other officers and agents be, and each of them is hereby forever restrained and enjoined from exercising any of the corporate franchises, rights or privileges of the defendant, or from in any manner interfering with or disposing of the franchises of said defendant.

It is further adjudged and decreed that plaintiffs recover from defendant the sum of $25.50 costs and disbursements.

Enter.

Alden Chester, J. S. C. J. M. Borthwick, Clerk.

[fol. 2413] State of New York,
County of Albany, ss:

Clerk's Office

I, George R. Happ, Clerk of the said County, and also Clerk of the Supreme and County Court, being Courts of Record held therein, do hereby certify that I have compared the annexed copy Affidavit, Findings & Judgment with the original thereof filed in this office on the 10th day of December, 1896, and that the same is a correct transcript therefrom, and of the whole of said original.

In testimony whereof, I have hereunto set my hand and affixed my official seal this 7th day of December, 1923.

(Sgd.) George R. Happ, Clerk.

[fol. 2414] Supreme Court, Albany County

The People of the State of New York

against

Fulton Municipal Gas Company

State of New York,
City and County of Albany, ss:

Theodore E. Hancock, being duly sworn, says: I am Attorney-General of the State of New York, Attorney for the Plaintiffs in the above entitled action. The summons and complaint in said action were served on the defendant on the 11th day of November, 1896. Defendant has appeared in said action, but no answer or demurrer has been served on behalf of said defendant, and the time to answer or demur to the complaint herein has expired.

T. E. Hancock.

Sworn to before me this 10th day of December, 1896. W. M. Thomas, Notary Public, Albany Co.

[fol. 2415] SUPREME COURT

At a Special Term of the Supreme Court, at the Court House, in the City of Albany, N. Y., on the 10th Day of December, 1896

Present: Hon. Alden Chester, Justice.

THE PEOPLE OF THE STATE OF NEW YORK

against

FULTON MUNICIPAL GAS COMPANY

FINDINGS OF FACT AND JUDGMENT

This action having been brought for a dissolution of the franchises of the above named defendant, on the ground of non-user, and summons and complaint having been served on the defendant herein on the 11th day of November, 1896, and said defendant having appeared in said action, but having failed to answer or demur therein, as appears by the affidavit of Theodore E. Hancock, Attorney-General, presented herewith, and application having been made on behalf of the plaintiffs for judgment, the Court does find the following facts:

1

First. At the several times herein referred to the defendant, Fulton Municipal Gas Company, was and still is a domestic corporation, duly organized under the Laws of the State of New York, for the purpose of manufacturing and supplying gas for illuminating and heating purposes within or adjacent to the City of Brooklyn, in said State, [fol. 2416] having a principal office for its place of business in or near said City of Brooklyn.

Second. That defendant as such corporation down to about the first day of November, 1895, operated the franchises conferred upon it by law in the manufacturing and supplying of gas for illuminating and heating purposes.

2

Third. That on or about November 4th, 1895, the defendant herein ceased the business of manufacturing and supplying gas for illuminating and heating purposes, and has

not since that day exercised the franchises conferred upon it by law, but has suspended its original and lawful business for a period of one year prior to the commencement of this action, and has failed for one year last past to exercise the powers granted to it by its charter and the laws of this State, and has disposed of all of its property and assets, and the right to exercise the franchises acquired by it at the time of its organization.

Fourth. That since defendant herein ceased the operation of its original and lawful business, it has disposed of all of its property and assets, and there is not at this time any assets or property belonging to said defendant in law or in equity.

As Matters of Law

First. The plaintiffs herein are entitled to judgment against the defendant dissolving the defendant corporation, and forfeiting its rights, charter, franchises and privileges, restraining the defendant, its officers and agents from exercising any corporate powers, privileges and franchises, together with costs of this action to be taxed.

Alden Chester, J. S. C.

[fol. 2417] Supreme Court

At a Special Term of the Supreme Court, State of New York, Held at the Court House, in the City of Albany, N. Y., on the 10th Day of December, 1896

Present: Hon. Alden Chester, Justice.

The People of the State of New York

against

Fulton Municipal Gas Company

Judgment

The summons and complaint in this section having been duly served on the defendant herein, on the 11th day of November, 1896, and said defendant having appeared, but having made default in answering or demur-ing, and application having been made to this Court at the above term

for judgment, and the Court having taken proof of the facts alleged in the complaint, and made findings of fact and law thereon,

Now, upon reading and filing summons and complaint, and proof of service thereof, together with proof of default, and the findings made herein, and

On motion of Theodore E. Hancock, Attorney-General, of the State of New York, Attorney for the plaintiffs, and Bergen & Dykman, Attorneys for the defendant, appearing and not objecting, it is

Adjudged and decreed that the defendant, Fulton [fol. 2418] Municipal Gas Company, be, and the same is hereby dissolved, and its corporate rights, privileges and franchises forfeited.

It is further adjudged and decreed that the defendant, Fulton Municipal Gas Company, its trustees, directors, managers, other officers and agents be, and each of them hereby is forever restrained and enjoined from exercising any of the corporation franchises, rights or privileges of the defendant, or from in any manner interfering with or disposing of the franchises of said defendant.

It is further adjudged and decreed that plaintiffs recover from defendant the sum of $25.50 costs and disbursements.

Enter.

Alden Chester, J. S. C. J. M. Borthwick, Clerk.

[fol. 2419] State of New York,
County of Albany, ss:

Clerk's Office

I, George R. Happ, Clerk of the said County, and also Clerk of the Supreme and County Courts, being Courts of Record held therein, do hereby certify that I have compared the annexed copy Affidavit, Findings & Judgment with the original thereof filed in this office on the 10th day of December, 1896 and that the same is a correct transcript therefrom, and of the whole of said original.

In testimony whereof, I have hereunto set my hand and affixed my official seal this 7th day of December, 1923.

(Sgd.) George R. Happ, Clerk.

[fol. 2420] SUPREME COURT, ALBANY COUNTY

THE PEOPLE OF THE STATE OF NEW YORK

against

METROPOLITAN GAS LIGHT COMPANY

STATE OF NEW YORK,
City and County of Albany, ss:

Theodore E. Hancock, being duly sworn, says: I am Attorney-General of the State of New York, Attorney for the Plaintiffs in the above entitled action. The summons and Complaint in said action were served on the defendant on the 10th day of November, 1896. Defendant has appeared in said action, but no answer or demurrer has been served on behalf of said defendant, and the time to answer or demur to the complaint herein has expired.

T. E. Hancock.

Sworn to before me this 10th day of December, 1896.
W. M. Thomas, Notary Public, Albany Co.

[fol. 2421] SUPREME COURT

At a Special Term of the Supreme Court, at the Court House, in the City of Albany, N. Y., on the 10th Day of December, 1896

Present: Hon. Alden Chester, Justice.

THE PEOPLE OF THE STATE OF NEW YORK

against

METROPOLITAN GAS LIGHT COMPANY

FINDINGS OF FACT AND JUDGMENT

This action having been brought for a dissolution of the franchises of the above named defendant, on the ground of non-user, and summons and complaint having been served on the defendant herein on the 10th day of November, 1896, and said defendant having appeared in said action, but having failed to answer or demur therein, as ap-

pears by the affidavit of Theodore E. Hancock, Attorney-General presented herewith, and application having been made on behalf of the plaintiffs for judgment, the Court does find the following facts:

1

First. At the several times herein referred to the defendant, Metropolitan Gas Light Company was and still is a domestic corporation, duly organized under the Laws of the State of New York, for the purpose of manufacturing and supplying gas for illuminating and heating purposes within [fol. 2422] or adjacent to the City of Brooklyn, in said State, and having a principal office for its place of business in or near said City of Brooklyn.

Second. That defendant as such corporation down to about the first day of November, 1895, operated the franchises conferred upon it by law in the manufacturing and supplying gas for illuminating and heating purposes.

2

Third. That on or about November 4th, 1895, the defendant herein ceased the business of manufacturing and supplying gas for illuminating and heating purposes, and has not since that day exercised the franchises conferred upon it by law, but has suspended its original and lawful business, for a period of one year, prior to the commencement of this action, and has failed for one year last past to exercise the powers granted to it by its charter and the laws of this State, and had disposed of all its property, and the right to exercise the franchises acquired by it at the time of its organization.

Fourth. That since defendant herein ceased the operation of its original and lawful business, it has disposed of all of its property and assets, and there is not at this time any assets or property belonging to said defendant in law or in equity.

As Matters of Law

First. The Plaintiffs herein are entitled to judgment against the defendant, dissolving the defendant corporation, and forfeiting its rights, charter, franchises and privileges,

restraining the defendant, its officers and agents from exercising any corporate powers, privileges and franchises, together with costs of this action to be taxed.

Alden Chester, J. S. C.

[fol. 2423] At a Special Term of the Supreme Court, State of New York, Held at the Court House, in the City of Albany, N. Y., on the 10th Day of December, 1896

Present: Hon. Alden Chester, Justice.

THE PEOPLE OF THE STATE OF NEW YORK

against

METROPOLITAN GAS LIGHT COMPANY

Judgment

The summons and complaint in this action having been duly served on the defendant herein, on the 10th day of November, 1896 and said defendant having appeared, but having made default in answering or demur-ing, and application having been made to this Court at the above term for judgment, and the Court having taken proof of the facts alleged in the complaint, and made findings of fact and law thereon,

Now, upon reading and filing summons and complaint and proof of service thereof, together with proof of default, and the findings made herein, and

On Motion of Theodore E. Hancock, Attorney-General of [fol. 2424] the State of New York, Attorney for the plaintiffs, and Bergen & Dykman, Attorneys for the defendant appearing and not objecting, it is

Adjudged and decreed that the defendant, Metropolitan Gas Light Company, be, and the same is hereby dissolved, and its corporate rights, privileges and franchises forfeited.

It is further adjudged and decreed that the defendant, Metropolitan Gas Light company, its trustees, directors, managers, other officers and agents, be, and each of them hereby is forever restrained and enjoined from exercising any of the corporate franchises, rights or privileges of the defendant, or from in any manner interfering with or disposing of the franchises of said defendant.

' It is further adjudged and decreed that the plaintiffs recover from defendant the sum of $25.50 costs and disbursements.

Enter.

Alden Chester, J. S. C. J. M. Borthwick, Clerk.

[fol. 2425] State of New York,
County of Albany, ss:

Clerk's Office

I, George R. Happ, Clerk of the said County, and also Clerk of the Supreme and County Courts, being Courts of Record held therein do hereby certify that I have compared the annexed copy Affidavit, Findings & Judgments with the original thereof filed in this office on the 10th day of December 1896, and that the same is a correct transcript therefrom, and of the whole of said original.

In testimony whereof, I have hereunto set my hand and affixed my official seal this 7th day of December, 1923.

(Sgd.) George R. Happ, Clerk. (Seal.)

[fol. 2426] Plaintiff's Exhibit 84

Extract from the Minutes of the Board of Directors of the Brooklyn Gas Light Co.

Minutes of Meeting Held November 13, 1895

Wednesday November 13th, 1895—3.30 P. M. Regular Meeting of the Board held at the office of Mr. Alexander E. Orr, President, 102 Produce Exchange Building, N. Y.

Present: Messrs. Orr, Chapman, Logan, Sheldon, Prentiss, Campbell, Stockwell and Rockefeller.

The President in the Chair.

The minutes of the adjourned Board Meeting held October 16th were read and approved.

The President reported to the Board that at a meeting of the stockholders duly called and held on November 4th, 1895, the contract heretofore entered into providing for a sale to The Brooklyn Union Gas Company of all the prop-

erty, rights and franchises of this Company had been unanimously approved by a vote of more than two-thirds of the stock of this Company, and in accordance with the instructions of the Board contained in the resolution adopted on the 16th day of October, 1895, the proper offices of the Company executed and delivered deeds and other documents, conveying all the property, rights and franchises then owned by this Company to The Brooklyn Union Gas Company, and had delivered possession thereof to said Company, on receipt by the President of this Company of a certificate from the New York Guaranty & Indemnity Company to the effect that the securities of The Brooklyn Union Gas Company had been deposited with that Company under and in pursuance with the terms of said contract. On motion of Mr. Campbell duly seconded, it was

Resolved: That the action of the officers of this Company in executing deeds and other documents conveying to The Brooklyn Union Gas Company, all the property, rights and franchises of this Company to said Brooklyn Union Gas Company, and delivering possession thereof, is hereby ratified, approved and confirmed.

[fol. 2427] Mr. Logan then offered the following resolution:

Resolved: That the Secretary of this Company be and he is hereby directed to address a circular to each stockholder of the Company, advising him of his rights under said contract.

Wm. L. Pettit, Secy.

[fol. 2428] Extract from the Minutes of the Board of Directors of the Brooklyn Gas Light Co.

Minutes of Meeting Held Wednesday October 2, 1895

Wednesday October 2, 1895—2:30 p. m.

Special Meeting of the Board called by the order of the President, held at the office of Mr. Alexander E. Orr, President, 102 Produce Exchange Building, New York.

Present: Messrs. Orr, Chapman, Logan, Campbell and Stockwell.

The President in the Chair.

The President laid before the Board a letter received from the Secretary of The Brooklyn Union Gas Company of which the following is a copy.

Office of The Brooklyn Union Gas Company, 10 Wall Street, New York

October 1st, 1895.

Alexander E. Orr, Esq., President the Brooklyn Gas Light Co.

Dear Sir: This Company has been organized for the purpose, among other objects, of constructing and acquiring works, and manufacturing and selling gas in the City of Brooklyn, and would like to enter into negotiations with your Company, with a view of acquiring its property, rights and franchises. A Committee of George W. Young, President, is Chairman, has been appointed by our Board of Directors, to consider and report upon the matter, and such Committee would be glad to meet a similar Committee of your Board, at any time and place that may suit the convenience of its members, to discuss the subject with a view to such action as may be found advisable.

Truly yours, Chas. E. Ball, Asst. Secretary.

After discussion on motion, duly seconded, it was voted that the President and Messrs. Campbell and Logan be and hereby are appointed a Committee to confer with the Committee of The Brooklyn Union Gas Company, referred to in the letter just read of The Brooklyn Union Gas Company under date of October 1st, 1895, upon the subject of the sale of the property, rights and franchises of the Company and the terms upon which such sale can be made, with instructions to report to this Board.

Communication to the President from Mr. Blodget, Gen. Mgr., relative to the gas consumed at 336 Fulton Street through our Meters attached to a Service Pipe which was connected to the Fulton Municipal Gas Company's Main was read. On Motion, the matter was left with the President with power. On Motion Adjourned.

Approved October 9th, 1895.

Wm. L. Pettit, Sec'y.

[fol. 2429] Extract from the Minutes of the Board of Directors of the Brooklyn Gas Light Co.

Minutes of Meeting Held Wednesday October 9, 1895

Wednesday, October 9th, 1895—3:30 p. m.

Regular Meeting of the Board held at the office of Mr. Alexander E. Orr, President, 102 Produce Exchange Building, N. Y.

Present: Messrs. Orr, Chapman, Stillman, Logan, Campbell and Stockwell.

The President in the Chair.

The minutes of the Adjourned Board Meeting held September 16th and the Special Board Meeting held October 2nd, were read and approved.

On Motion it was resolved that a Dividend of two per cent (2%) be declared payable November 5th, 1895, to stockholders of record of October 26th, the Transfer Books to be closed October 26th and opened on November 5th.

Mr. Stockwell of the Auditing Committee reports that the accounts for the Months of April, May, June, July and August have been examined, and found correct.

The Committee heretofore appointed to consider and confer in regard to the sale and conveyance of all the property, rights and franchises of this Company to The Brooklyn Union Gas Company, reported and submitted to the Board an offer received by them from the Committee representing the latter Company, with the recommendation that it be accepted by this Board.

The following are true copies of said offer, and the Committee's report thereon.

New York, October 7th, 1895.

To Messrs. A. B. Orr, Felix Campbell, W. J. Logan, Committee of Directors of the Brooklyn Gas Light Co.

GENTLEMEN: On behalf of The Brooklyn Union Gas Company the undersigned Committee hereby, offers to purchase all the property of every kind, rights and franchises of The Brooklyn Gas Light Company, upon the following terms, to-wit:

1. The price to be paid therefore to be one million nine hundred and fifty thousand dollars ($1,950,000.) par value, part of a total issue of $15,000,000.—in the consolidated mortgage 50 year 5% gold bonds of the purchasing Company (bearing interest from November 1st, 1895) and one million nine hundred and fifty thousand dollars ($1,950,000.) par value of its capital stock.

2. The vendor Company to appropriate sixty five thousand dollars ($65,000.) par value of said bonds to cover the expenses of the sale, transfer and conveyance and the negotiations connected therewith, and sixty five thousand dollars ($65,000.) par value of said bonds for making improvements upon and additions to the property of the purchasing Company, all said bonds so reserved to be left with the Trustees under the Mortgage securing the same, subject to the order of the purchasing Company.

3. The remainder of said bonds, to-wit, one million eight hundred and twenty thousand dollars ($1,820,000.) par value and the said stock to be delivered to the New York Guaranty & Indemnity Company, Trustee (to be distributed pro rata among the stockholders of the vendor Company upon surrendering their certificates) simultaneously with the delivery by the vendor company to the purchasing company of deeds duly conveying, transferring and assigning the said property, rights and franchises and the possession thereof; the said property to include bills receivable, cash on hand and all other assets.

[fol. 2430] 4. The said property rights and franchises to be free and clear of all liens and encumbrances, but the purchasing company to assume and provide for all current liabilities of the Vendor Company and also the payment annually of an amount to be agreed upon to cover the cost and expense of maintaining the organization of the vendor company until such time as it shall be deemed advisable to dissolve same.

5. Contracts to be at once executed by both parties subject to the approval of the stockholders of the vendor company covering the foregoing points and such further details

as shall be deemed advisable in form and substance satisfactory to both parties.

Yours respectfully, Geo. W. Yong, W. B. Dickerman, Geo. R. Tumbull, Committee Brooklyn Union Gas Co.

New York, October 9th, 1895.

To the Board of Directors of the Brooklyn Gas Light Company:

The undersigned Committee of conference on the sale of the property, rights and franchises of this company respectfully reports as follows:

1. That the Committee has received from the Committee representing The Brooklyn Union Gas Company an offer to purchase all the property, rights and franchises of this company, which offer is hereto attached.

2. That this Committee recommends that the Board, subject to the approval of the stockholders, accept the said offer and authorize the officers of the company on its behalf to execute and deliver a contract properly embodying the terms thereof and such further details as shall be deemed advisable, and call a meeting of the stockholders to vote upon the same.

Respectfully submitted.

A. E. Orr, Felix Campbell, W. J. Logan, Committee.

After full discussion on Motion duly seconded it was unanimously voted as follows, to-wit:

1. That subject to the approval of the stockholders the foregoing offer be and hereby is accepted by this company.

2. That the President and Secretary be and hereby are authorized on behalf of this company to execute and deliver to The Brooklyn Union Gas Company a contract embodying the terms of the foregoing offer and such further provisions as to detail as shall be deemed necessary or advisable for the protection of the rights and interests of the Company, its creditors and stockholders.

3. That a meeting of the stockholders be and hereby is called to vote upon the said offer and contract, and that

the President and Secretary, be and hereby are authorized and directed to publish the required notice of such meeting for a day to be fixed by them and specified in the said notice.

4. That the Secretary be and hereby is directed to communicate the action of the Board in respect to its said offer to The Brooklyn Union Gas Company.

On Motion the meeting was declared adjourned to Wednesday, October 16th, at 3:30 P. M. for the purpose of having contract between this company and The Brooklyn Union Gas Co., presented and approved.

On motion adjourned.

Approved October 16th, 1895.

Wm. L. Pettit, Sec'y.

[fol. 2431] Extract from the Minutes of the Board of Directors of the Brooklyn Gas Light Co.

Minutes of Meeting Held Wednesday, October 16, 1895

Wednesday, October 16th, 1895—3:30 p. m.

Adjourned Meeting of the Board held at the office of Mr. Alexander E. Orr, President, 102 Produce Exchange Building, New York. By Resolution at the Regular Board Meeting held October 9th, the meeting was declared adjourned to this date and hour, for the purpose of having contract between this Company and The Brooklyn Union Gas Company, presented and approved.

Present: Messrs. Orr, Chapman, Logan, Sheldon, Prentise, Campbell, Stockwell, and Rockefeller.

The President in the Chair.

The minutes of the regular Board Meeting, held October 9th, were read corrected, and approved as corrected.

The President laid before the Board the contract between this Company and The Brooklyn Union Gas Company for their approval. The following is a true copy of said contract.

The Agreement made this 16th day of October, A. D. 1895, by and between The Brooklyn Gas Light Company, a corporation under the laws of the State of New York hereinafter called, "Vendor," party of the first part, and The

Brooklyn Union Gas Company, a corporation under the Laws of the same State, hereinafter called "Purchaser," party of the second part, witnesseth:

That said parties hereto have mutually promised and agreed as follows, to-wit:

Vendor hereby promises and agrees to sell, convey, assign, transfer and set over unto Purchaser, and Purchaser hereby agrees to buy and pay for all property, real, personal and mixed of Vendor wherever situated, and all its rights, privileges and franchises of every kind, at the price, for the considerations and upon the terms hereinafter specified or set forth.

The price to be paid for said property, rights, privileges and franchises free and clear of all mortgages and liens and with improvements betterments and additions to be made as hereinafter set forth, is one million nine hundred and fifty thousand dollars ($1,950,000) par value in the consolidated mortgage 50 year 5% gold bonds of Purchaser, bearing interest from November 1, 1895, and hereinafter more particularly described, and one million nine hundred and fifty thousand dollars ($1,950,000) par value of the capital stock.

All commissions and expenses of the negotiation incident to the sale and purchase and all expenses incident to the conveyance, transfer and assignment of the said property, rights, privileges and franchises are to be paid by Vendor, and Vendor hereby appropriates for the payment of such expenses sixty-five thousand dollars ($65,000) par value of the said bonds to be received by it as aforesaid, and in addition thereto for the making of improvements upon and betterments and additions to the property hereby agreed to be sold or other property, now held or hereafter acquired by Purchaser which shall become subject to the mortgage securing said bonds, or for acquiring other property to become subject to said mortgage, sixty five thousand dollars ($65,000) par value of said bonds and agrees that all said bonds so appropriated shall be reserved by the Trustee under the mortgage securing the same and delivered or disposed of by such Trustee as directed by Purchaser.

Said stock is to be common stock of Purchaser, part of a total issue of fifteen million dollars ($15,000,000) par value divided into shares of one hundred dollars each. Said

bonds are to be part of an issue of fifteen thousand (15,000) for the principal sum in the aggregate of fifteen million dollars ($15,000,000) each of said bonds being for the sum [fol. 2432] of one thousand dollars ($1,000) dated September 16, 1895, Payable May 1, 1945, in gold coin of the United States of the present standard bearing interest at the rate of 5% per annum, payable in like gold coin semi-annually, on the first days of May and November in each year), all of which are to be equally secured to be paid by a mortgage or deed of trust made by Purchaser to the New York Guaranty & Indemnity Company as trustee, covering all the property, rights, privileges and franchises of Purchaser; including all acquired pursuant to this agreement.

None of said bonds are to be issued except to acquire property, rights and franchises necessary or useful in the business of Purchaser or for making improvements upon or betterments or additions thereto, but in acquiring such property, rights and franchises provision may be made for using the bonds so issued for the payment or discharge of existing mortgages thereon or of debits of the vendor thereof and for the payment of commissions and expenses incident to the sale, conveyance, assignment or transfer thereof.

Said bonds, to wit $1,950,000 par value and certificates representing said stock (par value $1,950,000) duly endorsed for transfer in blank shall be delivered by Purchaser to the New York Guaranty & Indemnity Company, No. 65 Cedar Street, New York, hereinafter called "Trustee," simultaneously with the delivery by Vendor to Purchaser of deeds duly conveying, transferring and assigning to it the said property, rights and franchises, and Trustee shall dispose of and distribute said bonds and stock as follows, to wit:

1. Bonds for the principal sum in the aggregate of sixty-five thousand dollars ($65,000) shall be applied and used in payment of commissions and expenses incident to the negotiation, conveyance and transfer of the property hereby agreed to be sold as hereinbefore provided, and the Trustee is hereby authorized and directed to certify and deliver such bonds to Purchaser, or its order.

2. Bonds for the principal sum in the aggregate of sixty-five thousand dollars ($65,000) shall be used in making

improvements upon or betterments or additions to the property hereby agreed to be sold, or other property covered by the mortgage securing said bonds or in acquiring other like property to be subject to said mortgage and the Trustee is hereby authorized and directed to certify and deliver such bonds to Purchaser or its order.

3. The remainder of said bonds, to wit, bonds of the par value of one million eight hundred and twenty thousand dollars ($1,820,000) and the said stock are to be distributed by the Trustee pro-rata among the stockholders of Vendor, in exchange for and upon surrender and delivery to the Trustee of the certificates representing their stock in Vendor respectively, duly endorsed for transfer in blank, that is to say,

Each stockholder of Vendor upon surrender and delivery to the Trustee of his stock certificate so endorsed, shall be entitled to receive in exchange therefor his pro-rata share in bonds and stock of Purchaser to be delivered to the Trustee for distribution as aforesaid, and the Trustee is hereby authorized and directed so to deliver said stock and bonds of Purchaser to the stockholders of Vendor.

In case certificates shall be presented entitling the holder thereof to a fractional amount of such bonds and stock, or either the Trustee shall issue certificates or scrip stating such fractional amount and providing for delivery of stock and bonds in exchange thereof when such certificates or scrip of the proper aggregate amount or amounts shall be presented together.

The property hereby sold and agreed to be transferred, assigned and delivered shall include cash on hand, bills receivable and all other assets of every kind whatsoever. Delivery of the deed therefor and of all other instruments necessary to transfer the same shall be made on the fourth day of November, 1895, or as soon thereafter as this agreement shall have been approved or assented to by the stockholders or Vendor in accordance with law, and Vendor shall call and hold a Meeting of stockholders for this purpose at as early a date as practicable. Immediately upon the delivery of such deeds and other instruments, if any, by Vendor and of said bonds and stock by Purchaser and upon

demand therefor, Purchaser shall be given possession of the said property, rights and franchises.

[fol. 2433] Purchaser shall make and issue its bonds and secure the same by a mortgage or deed of trust and shall issue its stock and deliver the said bonds and stock to the trustee in all respects as hereinbefore provided, and shall assume and pay all debts and liabilities of Vendor, and shall pay an amount to be agreed upon to cover the cost and expense of maintaining the corporate organization of Vendor until it shall be deemed advisable to terminate the same, and shall make, execute and deliver such instrument or instruments providing for such assumption and payments as shall be necessary or expedient.

Deeds of conveyance to be given by Vendor hereunder shall contain covenants for further assurance.

This agreement is made on the part of Vendor subject to the approval of its stockholders, it being understood that the agreement is to be submitted to the stockholders for their consideration at a meeting to be called in accordance with the provisions of Section 33 of the Stock Corporations Law of the State of New York.

In case any stockholder of Vendor shall demand payment for his stock and obtain appraisal thereof as provided for in said Section 33, purchaser shall forthwith pay the amount of such appraisal to Vendor the same to be immediately paid to such stockholder and shall also pay the charges and expenses of such appraisal, and Purchaser shall thereupon become the owner of the stock so appraised and shall receive from the Trustee the pro rata share of bonds and stock to which the same would be entitled under the foregoing provisions hereof.

In Witness Whereof, to this agreement executed in duplicate, the said parties have respectively caused their corporate seals to be affixed, attested by their secretaries, and their corporate names to be signed by the hands of their presidents, the day and year first herein written.

The Brooklyn Gas Light Company, by A. E. Orr, President. Attest: Wm. L. Pettit, Secretary. (Seal.) The Brooklyn Union Gas Company. G. W. Young, President. Attest: T. W. Wilcox, Secretary. (Seal.)

After full discussion on Motion, duly seconded it was unanimously voted as follows, to-wit:

Whereas in the judgment of this Board the best interest of this Company and each and every stockholder thereof will be promoted by the sale to The Brooklyn Union Gas Company of all the property, rights and franchises of this Company upon the terms set forth in the proposed contract between this company and the said The Brooklyn Union Gas Company authorized at a recent meeting of the Board, which contract has just been read.

Resolved, that the said contract be and the same is hereby approved, and the President and Secretary of the Company be and they are hereby authorized and directed to execute the same on behalf of this Company, attached hereto its corporate seal and deliver the same.

Resolved, that the Board hereby recommends to stockholders that they approve the said contract at the meeting which has been called to consider and take action thereon.

And it is further Resolved, that in case the aforesaid sale shall receive the consent of stockholders as required by law, the officers of this Company be and they are hereby authorized and directed to forthwith make, execute and deliver on behalf of this Company a deed of deeds and all other instruments of transfer requisite or proper to carry out the sale and transfer provided for in the contract aforesaid, and also to give possession to said Brooklyn Union Gas Company of all the property, rights franchises so transferred, upon receiving the certificate of the New York Guaranty and Indemnity Company that there have been delivered to it for the purpose of said contract bonds and stocks of said Brooklyn Union Gas Company of the amounts stated in said contract.

On Motion Adjourned.

Approved November 13 95.

Wm. L. Pettit, Secy.

[fol. 2434] STATEMENT RE PLAINTIFF'S EXHIBIT 85-90, INC.

Plaintiff's Exhibits 85-90 are the same in substance as Exhibit 84.

[fol. 2435] PLAINTIFF'S EXHIBIT 87-B

Extract from Minutes of Meeting of the Board of Directors of the Fulton Municipal Gas Company of Brooklyn, New York, Held April 9, 1879

The Committee appointed at a former meeting to negotiate with The Mutual Gas Light Company of Brooklyn, N. Y. for terms of transfer for all property real, personal and equitable, owned by them, and to report to this company the result of their negotiations: Reported they *has* entered into such negotiations with General James Jourdan who had undertaken to transfer said property on the terms and conditions set forth in the following resolution: which resolution the Committee through Mr. H. S. Bennett (one of Them) presented and moved for adoption, to wit:

Resolved: That the proposition of James Jourdan be and it is hereby accepted, by which he undertakes and agrees to convey and transfer, and cause to be conveyed and transferred, in due form of law and equity, to this Company the right, title and interest in and to the lands, appurtenances and easements known as the gas works of the Mutual Gas Light Company of the City of Brooklyn, situate in said City, together with its franchises, privileges, rights, powers, liberties, property, estate and effects, in consideration of the sum of Seventy-two Thousand dollars, payable in installments and manner as follows, to wit:

Twenty eight thousand dollars portion thereof by assuming the payment of two mortgages aggregating that amount	$28,000
Four thousand four hundred dollars another portion thereof in cash on or before May 1, 1879	4,400
Seventeen thousand six hundred dollars, another portion thereof, in cash on or before July 1, 1879	17,600
[fol. 2436] And the remaining portion thereof, to wit, Twenty two thousand to be paid, (according to the statute in such case made and provided) in the Capital Stock, full paid, of this Company, at its par value, that is: one hundred dollars a share: and not liable to any future call	22,000

And it is further resolved: that the President of this Company on receiving such conveyance and transfer, or conveyances and transfer competent to invest this Company with the title, ownership, and possession of said lands, property, real, personal and equitable, above described, free and clear from all liens and encumbrances, (except, and subject to the aforesaid two mortgages amounting in the aggregate to the sum of Twenty eight thousand dollars principal) be and he is hereby authorized, empowered and directed to pay the aforesaid sums of money and to issue with the Secretary of this Company to the said James Jourdan, or his assigns, the said sum of Twenty two thousand dollars in the capital stock of this Company, full paid stock, at its par value, this is: one hundred dollars a share, and not liable to any future call, the same being for and as part of the agreed purchase price of the said property.

The said stock to be issued thereafter at such times and proportions as the said Jourdan may require.

The resolution after being read and its adoption being seconded by Mr. Benedict, was unanimously carried.

I hereby certify that I have compared the above with the original minutes of the Board of Directors of The Fulton Municipal Gas Company of Brooklyn, meeting held April 9th, 1879, and that the same is a true and correct transcript therefrom.

(Signed) F. R. Wogan, Assistant Secretary the Brooklyn Union Gas Company. (Seal.)

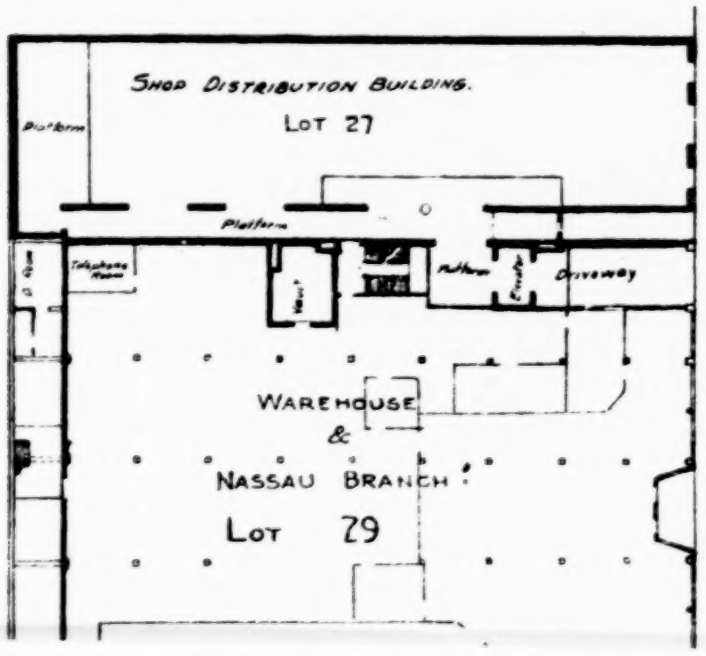
[fol. 2437] PLAINTIFF'S EXHIBIT 87-C

Extract from Minutes of Meeting of The Board of Directors of the Fulton Municipal Gas Company of Brooklyn, New York, Held May 5, 1879

The President, Mr. H. M. Benedict, reported: "That the transfer of the property purchased from James Jourdan, etc." (See Report.)

Report of President: That the transfer of the property purchased from James Jourdan had been completed and that the deeds and papers are in the possession of the counsel of the Company.

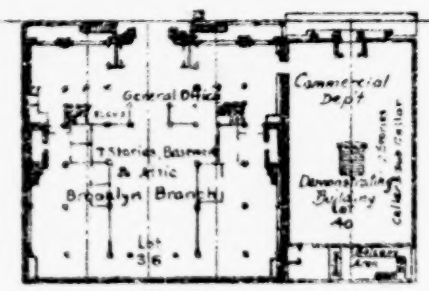
GRAND AV.



FULTON ST.

1ST WARD - 1ST SECTION

REMSEN ST.



CLINTON ST.

ST.

ST.

JORALEMON ST.

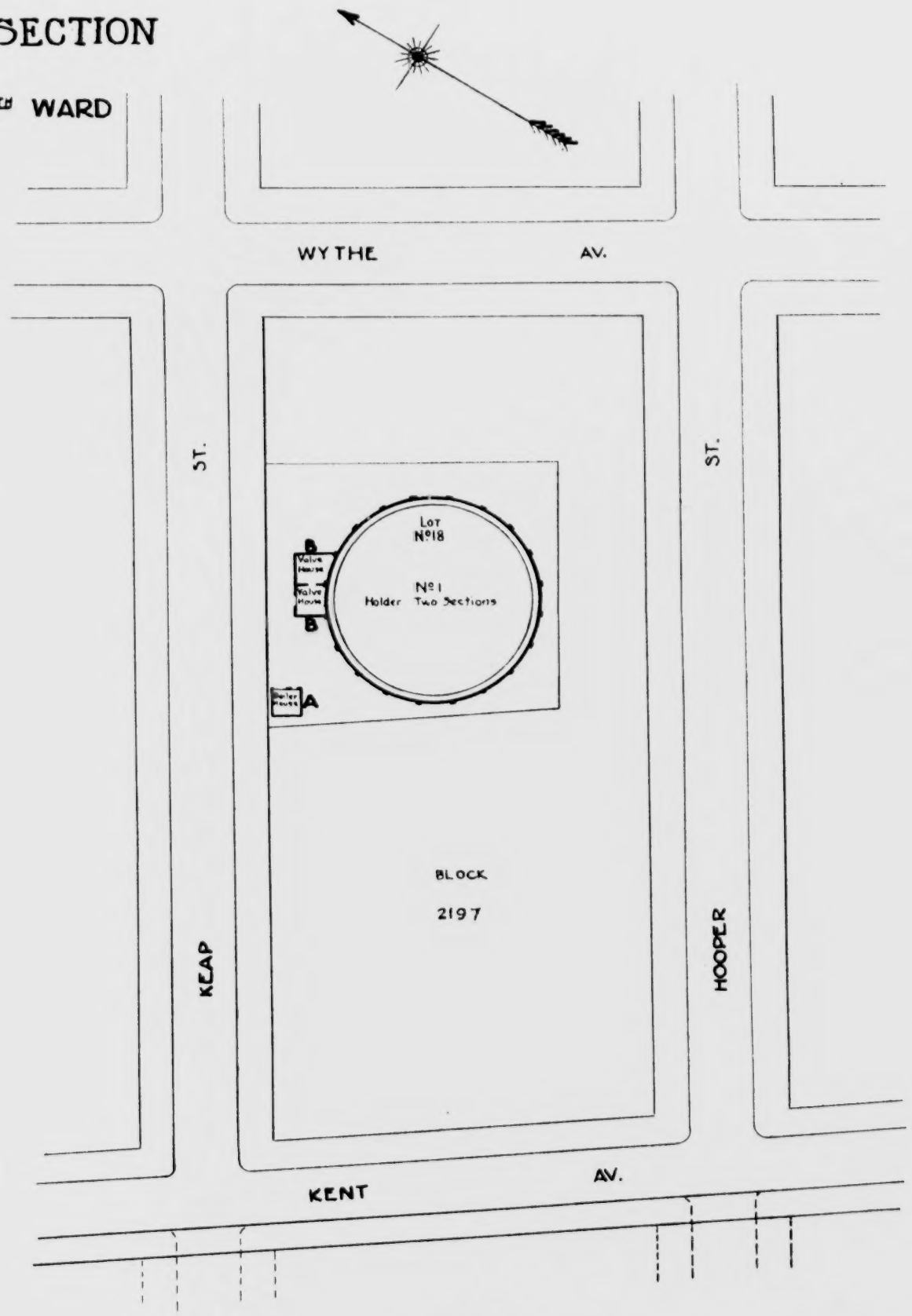
COURT

PROPERTY
OF
THE BROOKLYN UNION GAS COMPANY
GENERAL OFFICE, BKLYN BR., COMMERCIAL DPT

2444

8TH SECTION

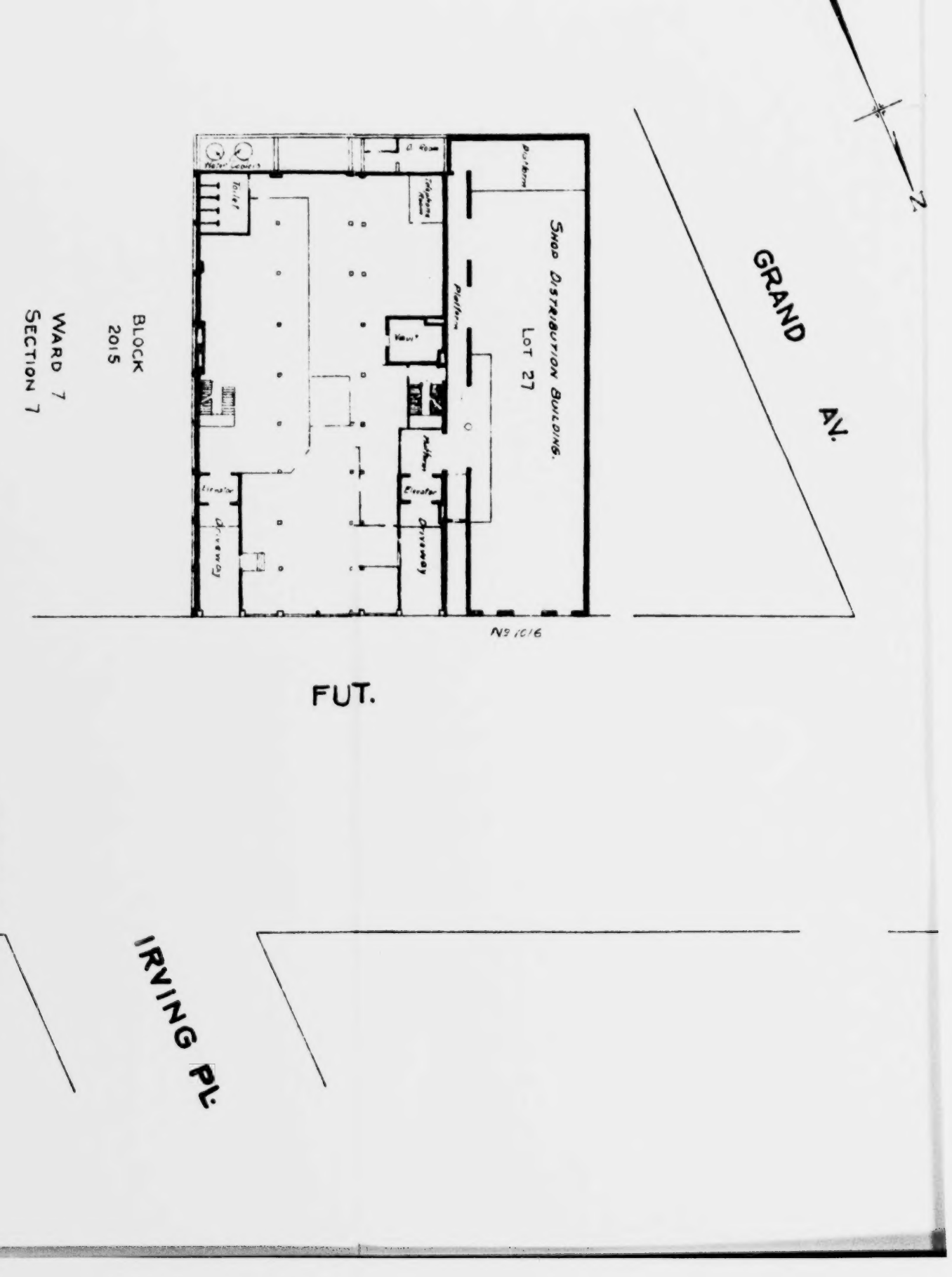
19TH WARD



PROPERTY OF THE BROOKLYN UNION GAS COMPANY

KEAP ST. STATION

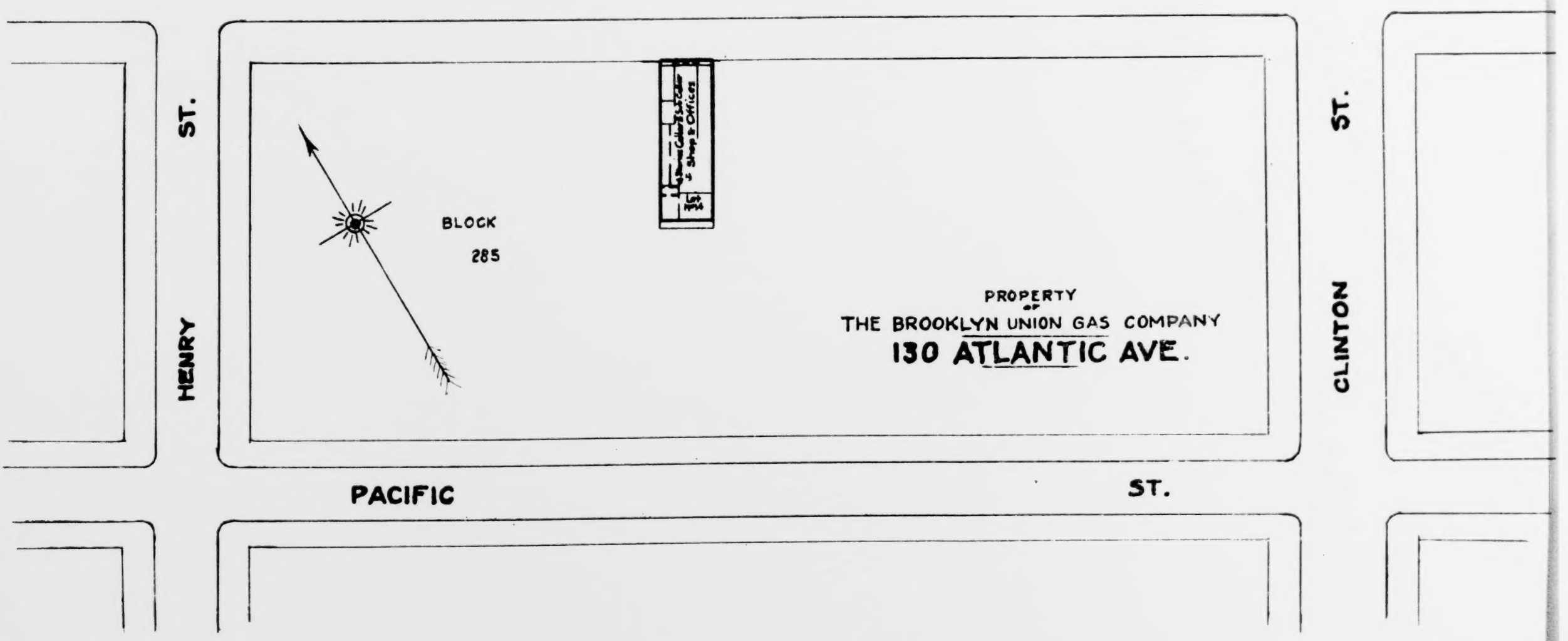
2445



FULTON ST. W'HSE & SHOP DISTN BLD'G & NASSAU BRANCH.

2439

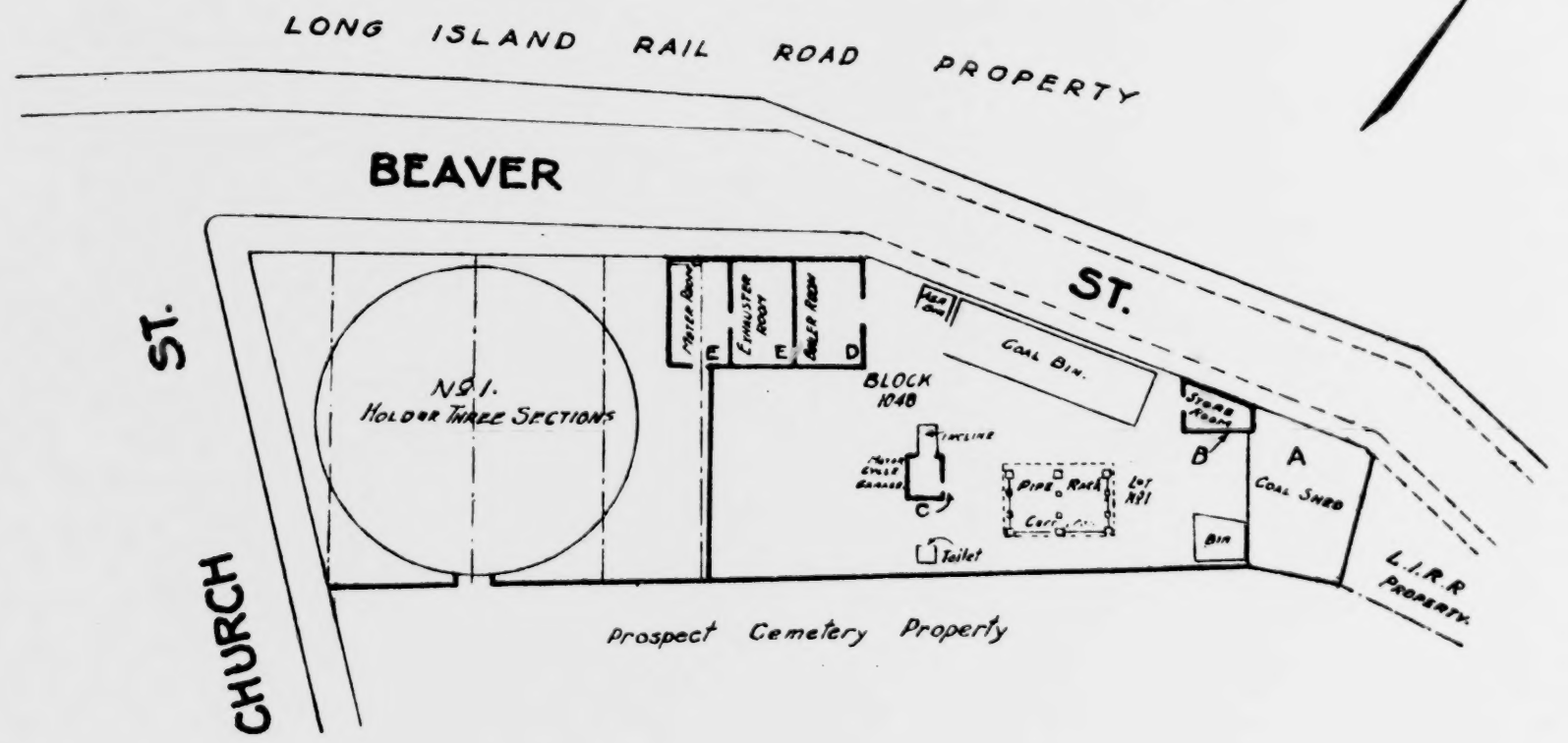
6TH WARD - 2ND SECTION.



4TH WARD

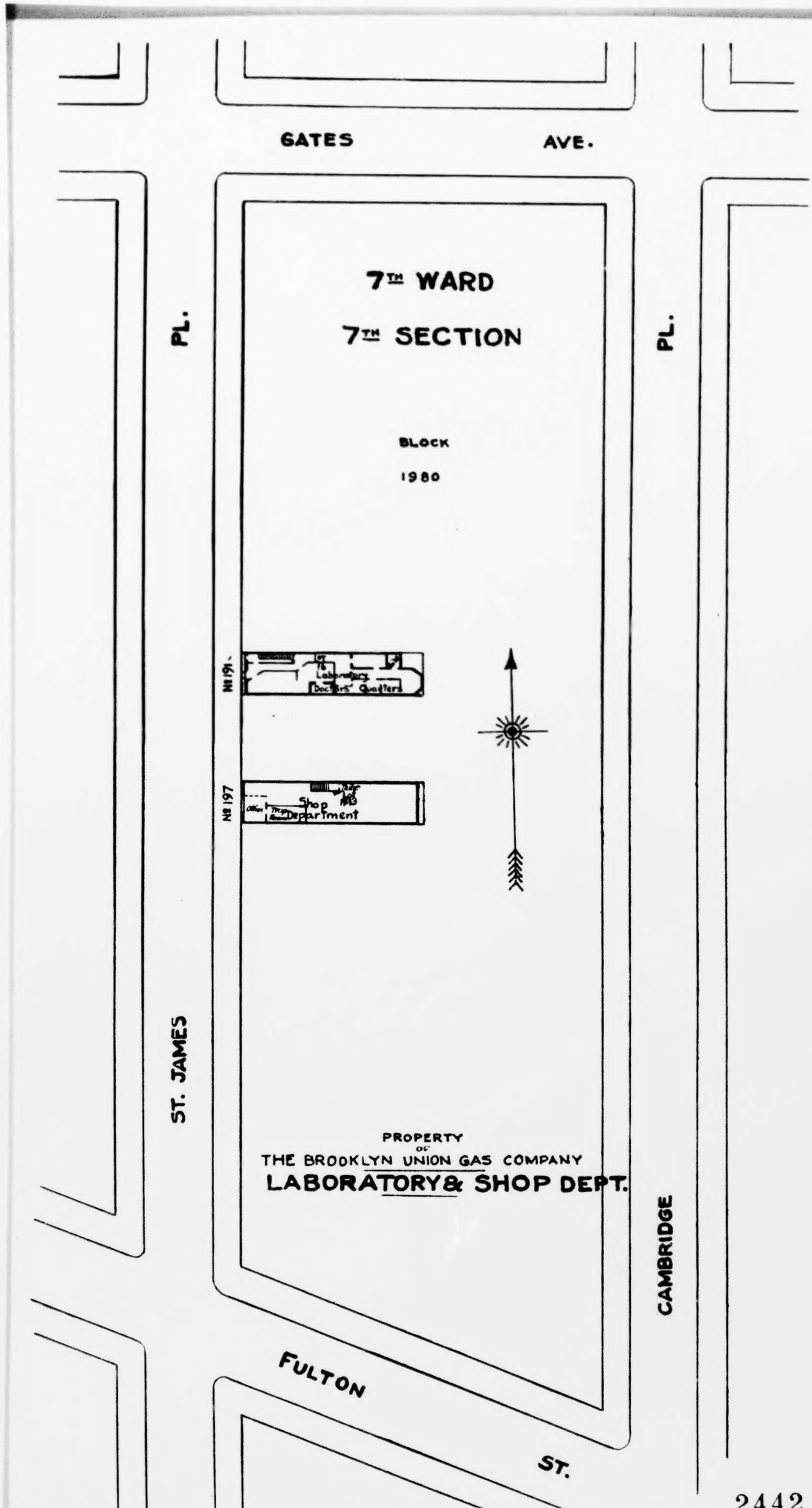
BOROUGH OF QUEENS

MAP VOL. 7
DEPT. OF TAXES & ASSESSMENTS



2446

JAMAICA STATION


GATES AVE.
7TH WARD
7TH SECTION
PL.
PL.
BLOCK
1980
No 191.
Laboratory
Doctors' Quarters
No 197
Shop
Department
ST. JAMES
CAMBRIDGE
FULTON
ST.
PROPERTY
OF
THE BROOKLYN UNION GAS COMPANY
LABORATORY & SHOP DEPT.

12TH SECTION
26TH WARD

BELMONT AV.

AV.

AV.

HOLDER NO 1

FOUR SECTIONS

6

12

5

BLOCK 24

3751

WILLIAMS

ALABAMA

SUTTER AV.

2148

PROPERTY
OF
THE BROOKLYN UNION GAS COMPANY
BELMONT AV. STATION

22ND WARD
4TH SECTION

EIGHTH AVENUE

FIFTH STREET

BLOCK
999

OFFICE.

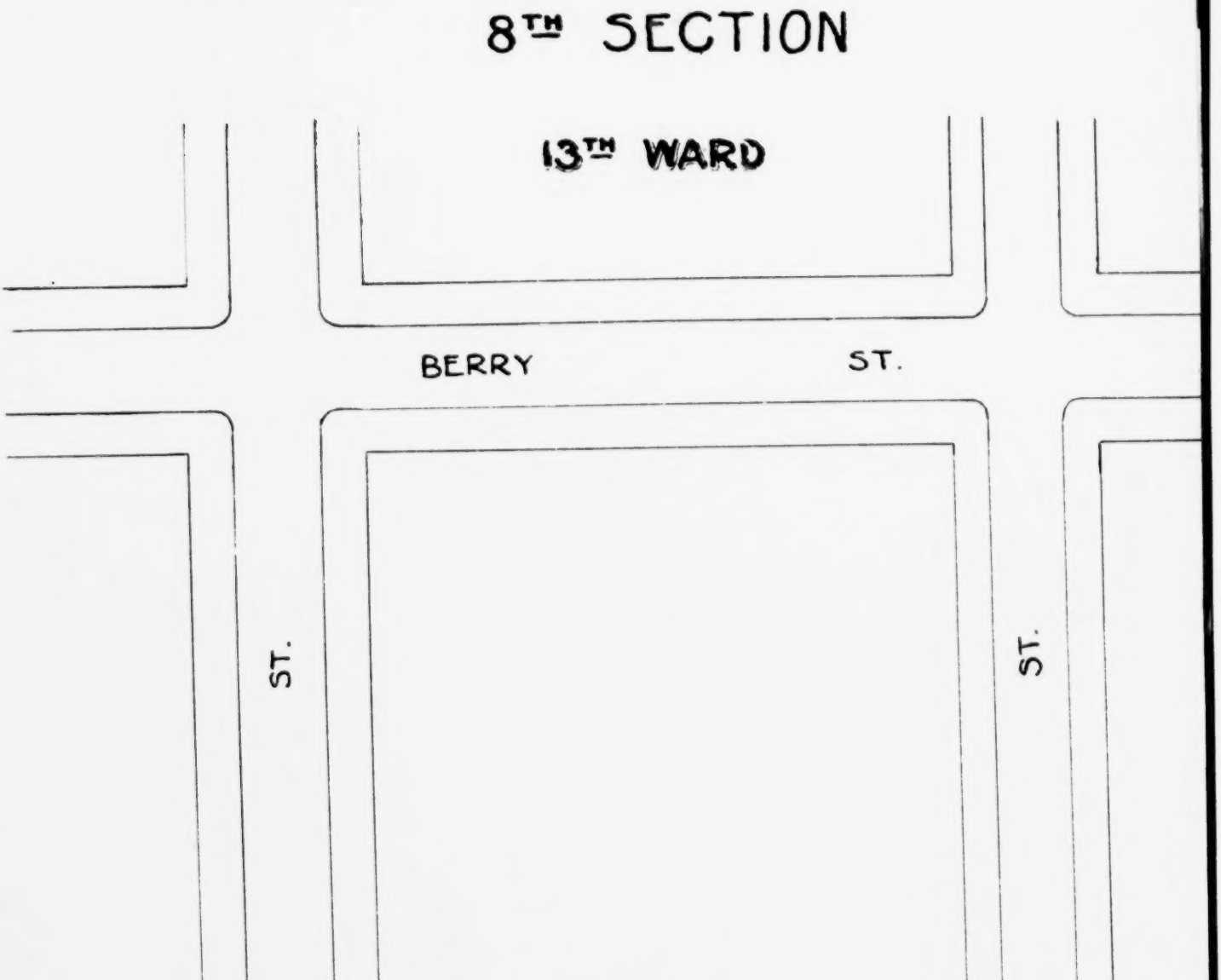
LOT
No 1

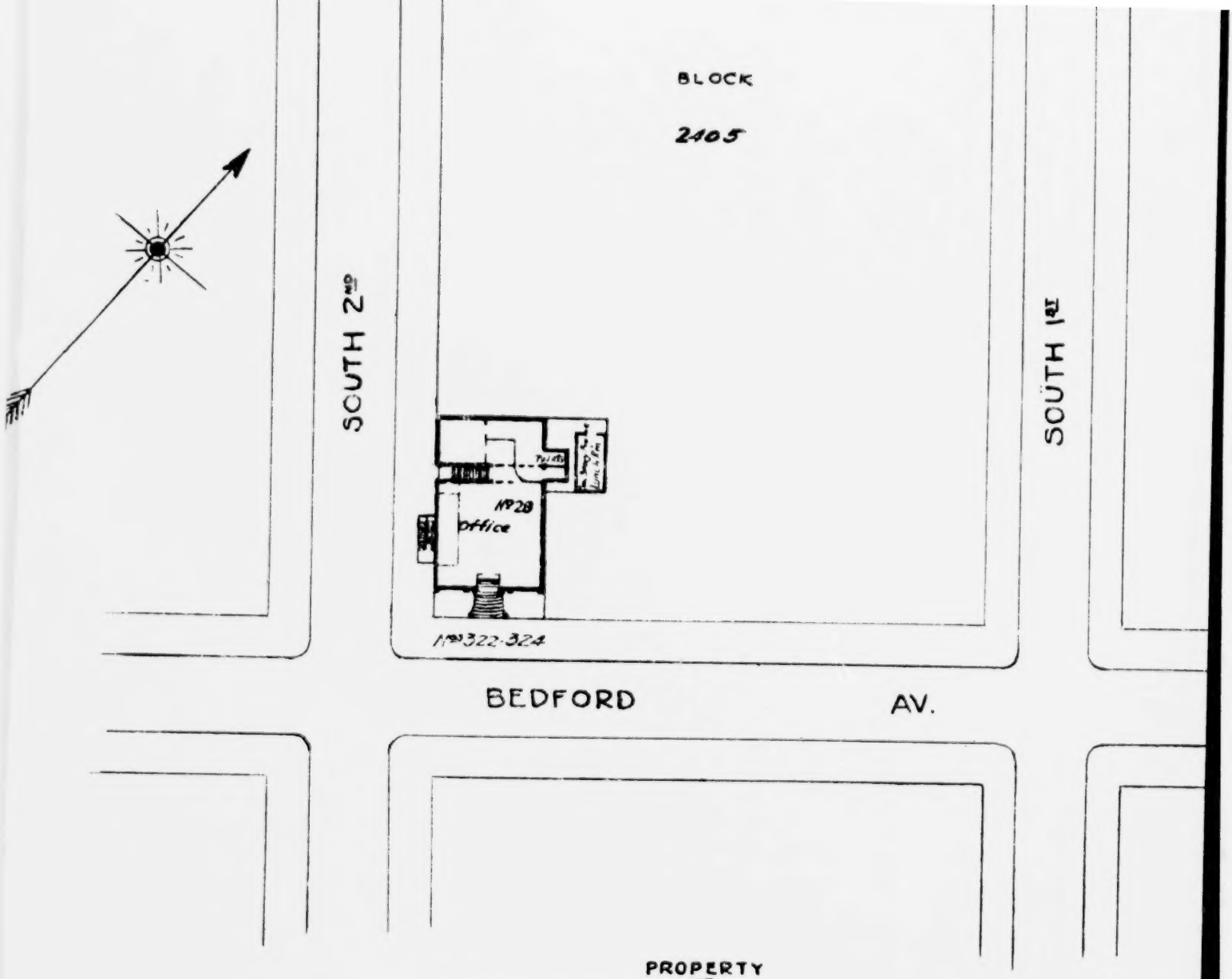
OFFICE

3 Stories & Basement.

LOT
72

PROPERTY
OF
THE BROOKLYN UNION GAS CO
METROPOLITAN BRANCH OFFICE.


8TH SECTION
13TH WARD
BERRY
ST.
ST.
ST.



PROPERTY
OF
THE BROOKLYN UNION GAS COMPANY
WILLIAMSBURGH BRANCH

2441

SECTION 13

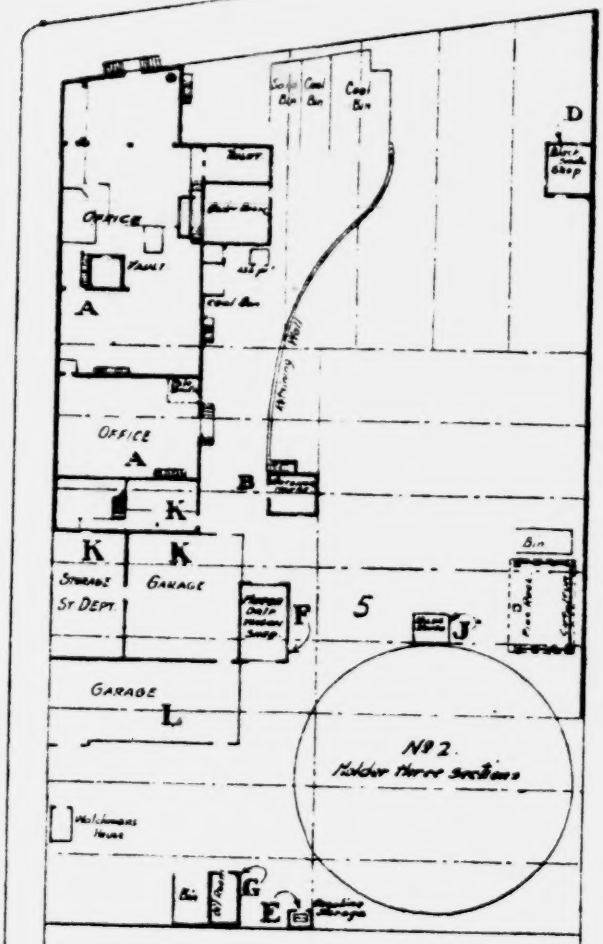
26 WARD.

ST.

ST.

AV

ATLANTIC

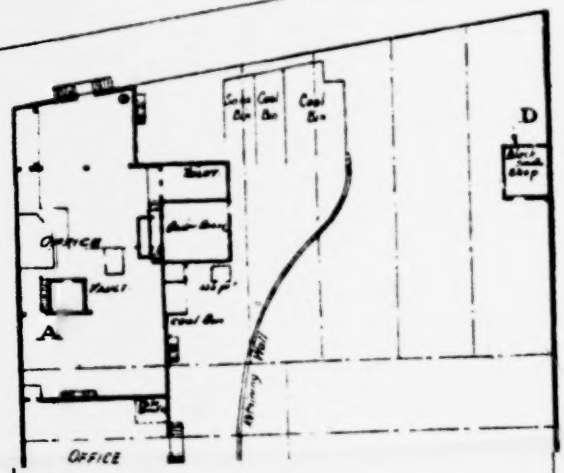


CLEVELAND

ASHFORD

AV

ATLANTIC

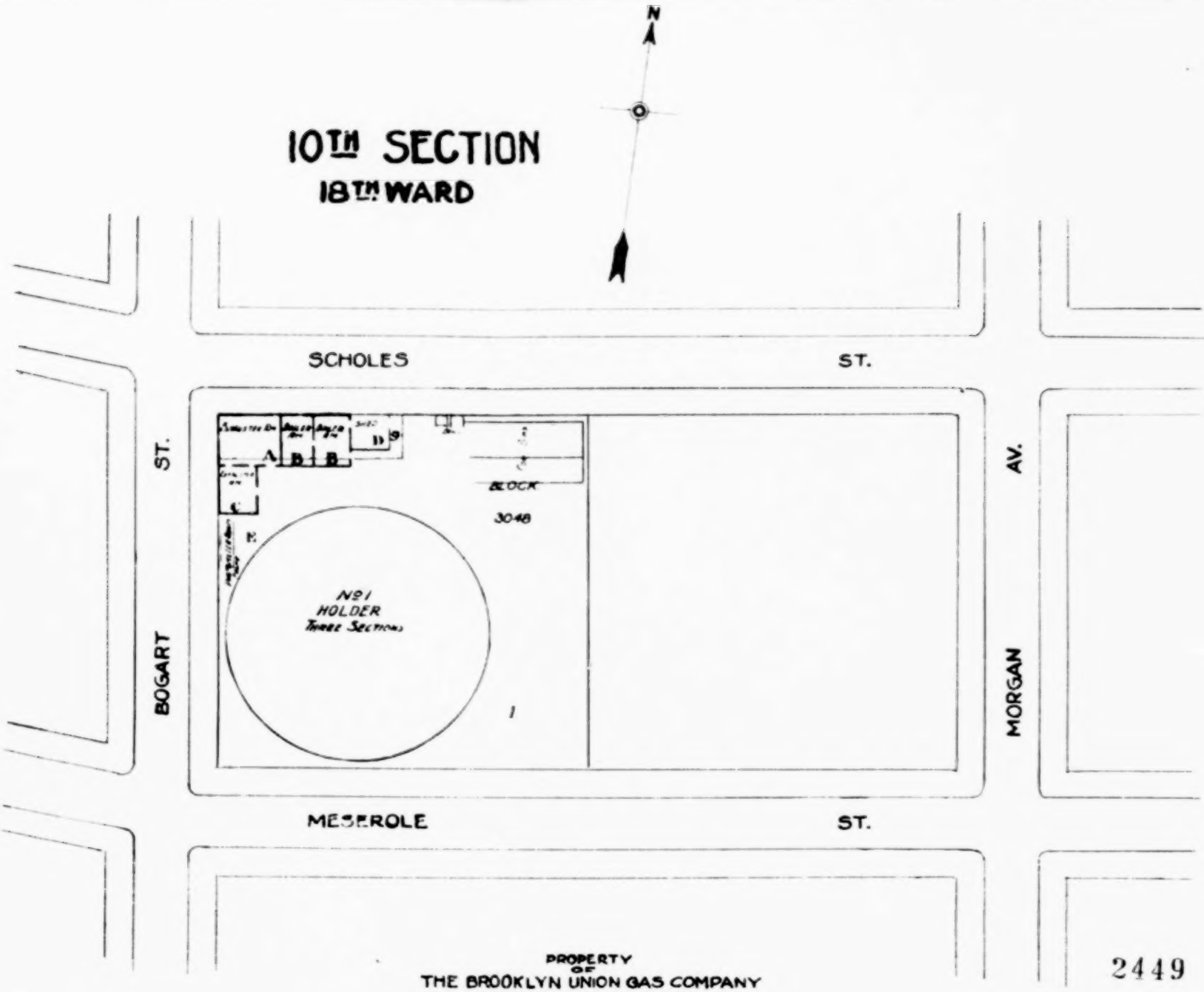


LIBERTY AV.

2447

PROPERTY
OF
THE BROOKLYN UNION GAS COMPANY.

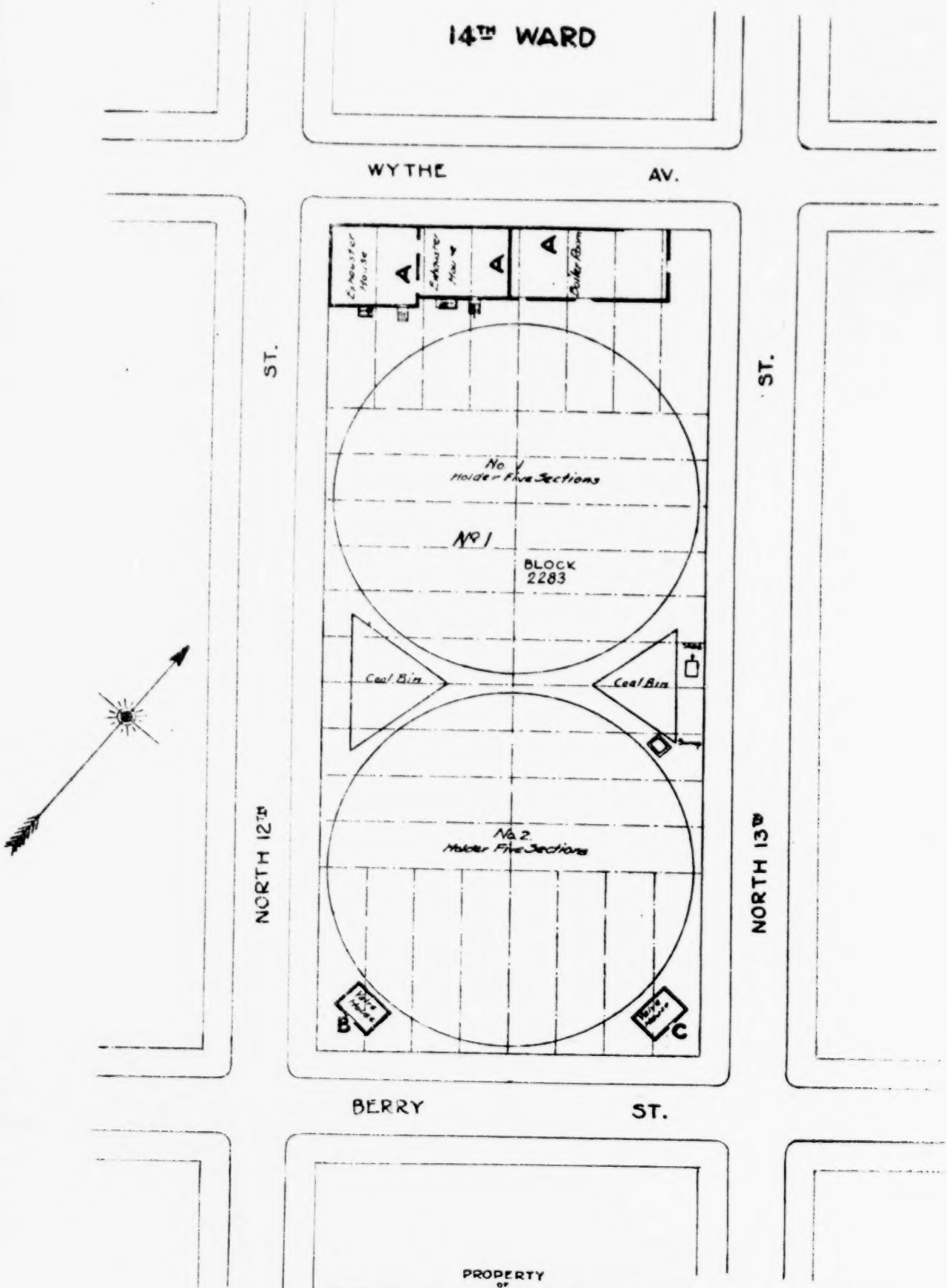
UNION STATION
&
CITIZENS BRANCH



PROPERTY
OF
THE BROOKLYN UNION GAS COMPANY
SCHOLES ST. STATION

2449

8TH SECTION



PROPERTY
OF
THE BROOKLYN UNION GAS COMPANY
WYTHE AV. STATION.

2450

BEDFORD

AV.

FLUSHING

PEOPLES

Boiler Room

A

LOT
№19

№1
Holder Three Sections

№2
Holder Three Sections

C

Shop

Office

Coal Storage Underneath

BLOCK

1886

NASSAU

LOT
№10

№3
Holder Two Sections

Valve House

B

A

Boiler House

SKILLMAN

PROPERTY
OF
THE BROOKLYN UNION GAS COMPANY
SKILLMAN ST. STATIONS

7TH SECTION

7TH WARD

AV.

AV.

BLOCK

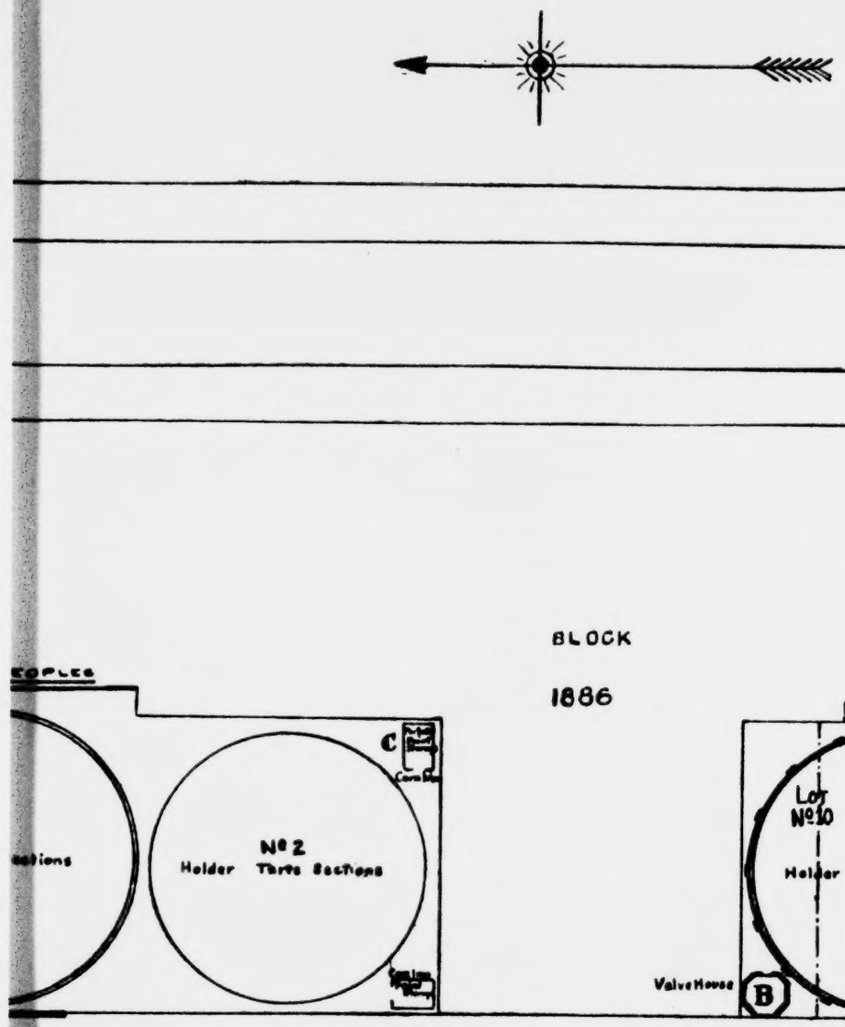
1886

COPLEY

NASSAU

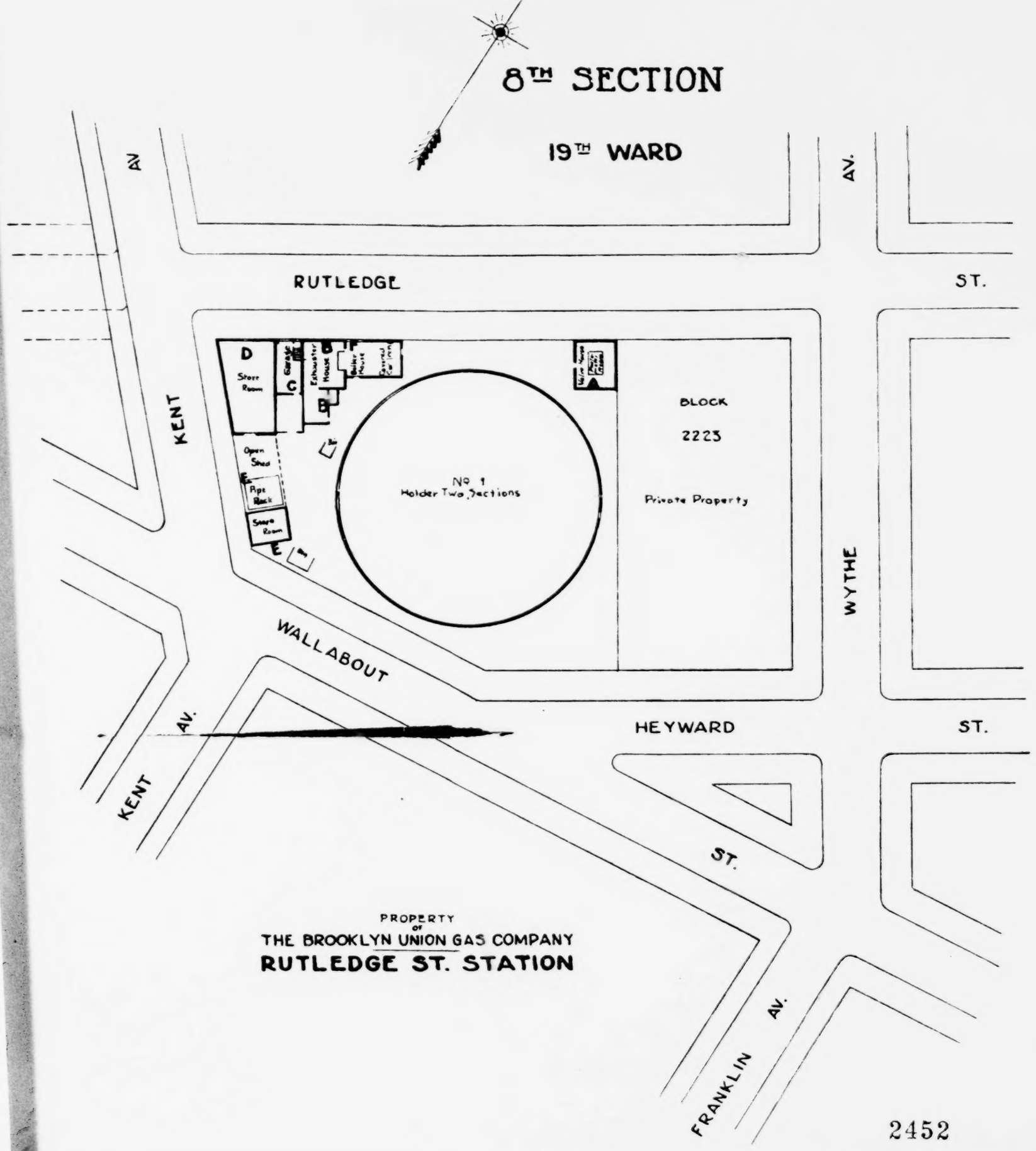
PARK

ST.



PROPERTY OF
THE BROOKLYN UNION GAS COMPANY
SKILLMAN ST. STATIONS

2451


8TH SECTION
19TH WARD
AV.
AV.
RUTLEDGE
ST.
KENT
D
Storr Room
C
Exhauster House
B
Boiler House
Open Shed
Pipe Rack
Store Room
E
No. 1
Holder Two Sections
BLOCK
2223
Private Property
WYTHE
WALLABOUT
HEYWARD
ST.
KENT
AV.
ST.
FRANKLIN
AV.
PROPERTY
OF
THE BROOKLYN UNION GAS COMPANY
RUTLEDGE ST. STATION
2452

5TH WARD – 1ST SECTION

PLYMOUTH ST.

ST.

AV.

HOLDER
Nº 2
Two Sections

HOLDER
Nº 1
Two Sections

HOLDER
Nº 3
Two Sections

B

C

D
Valve House

Lot 1

Gov. House

Shed

Water Str.

Oil Rock

Toilets

GARAGE

Wagon Shop

Structural Steel Paint Shop over Wagon House

PAINT SHOP

Lot 1

BLOCK
33

Blacksmith & Wagon Repair Shops

A

Ash Bin

Boiler House

Coal Bin

Coal Bin

Nº 63

Nº 65

Nº 67

Dwelling Houses

Meter Pit

GOLD

HUDSON

EVANS ST.

WATER ST.

PROPERTY
OF
THE BROOKLYN UNION GAS COMPANY

PLYMOUTH ST. STATION

2453

WARD — 1ST SECTION

FRONT ST.

ST.

ST.

B Iron Exhauster House

Exhauster House C

Coal Bin

Pit

Coal Bin

D Boiler House

Plant Room

HOLDER
No 4
Two Sections

Paint Storage Corr. Iron

Shed

Shed

Chimney

Coal Bin

Lot 15

A Gov House

BLOCK
55

HOLDER
No 5
Three Sections

Dwelling House

Meter Pit

No 183

BRIDGE

GOLD

YORK ST.

MAPS

TOO

LARGE

FOR

FILMING

I hereby certify that I have compared the above with the original minutes of the Board of Directors of the Fulton Municipal Gas Company of Brooklyn, meeting held May 5th, 1879, and that the same is a true and correct transcript therefrom.

(Signed) F. R. Wogan, Assistant Secretary the Brooklyn Union Gas Company. (Seal.)

[fol. 2438] PLAINTIFF'S EXHIBIT No. 146

Index

1. Metropolitan Works, 12th Street Station and Meter Repair Department.
2. Williamsburgh Works.
3. Nassau Works.
4. Fulton Works, 3rd Avenue Station and Garage.
5. Citizens Works and 5th Street Station.
6. Equity Works.
7. Front Street Station.
8. Plymouth Street Station.
9. Rutledge Street Station.
10. Skillman Stations.
11. Wythe Avenue Station.
12. Scholes Street Station.
13. Belmont Avenue Station.
14. Union Station and Citizens Branch.
15. Jamaica Station.
16. Keap Street Station.
17. 176-180 Remsen Street.
18. Metropolitan Branch.
19. Laboratory and Fitters' School.
20. Williamsburgh Branch.
21. 130 Atlantic Avenue.
22. Nassau Branch and Shop.

(Here follow side folio pages 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, and 2460.)

[fol. 2461] PLAINTIFF'S EXHIBIT 147

This indenture, made the sixth day of January, Eighteen hundred and ninety-nine, between the Jamaica Gas Light Company, a corporation organized and existing under the laws of the State of New York, party of the first part, and the Brooklyn Union Gas Company, a corporation organized and existing under the laws of the State of New York, party of the second part, witnesseth:

That the party of the first part has letten and by these presents does grant, demise and to form let unto the party of the second part, its successors and assigns, All that certain block of land, situate, lying and being in Jamaica, Queens County, in the State of New York, bounded and described as follows: Beginning at a point on the Southerly side of Beaver Street, Seventy-one (71) feet and one (1) inch Westerly from the Northeasterly corner of the property of the Jamaica Gas Company on Beaver Street, running thence Westerly and along said Beaver Street Two Hundred and ten (210) feet and four and one half (4½) inches to Church Street, thence Southerly along said Church street One hundred and ten (110) feet and three (3) inches to land now or formerly of Trustees of the Prospect Cemetery in the Town of Jamaica; thence Easterly and along said line of Prospect Cemetery, One hundred and eighty-seven (187) feet, thence Northerly to the point first mentioned on Beaver Street One hundred and two (102) feet.

Together with the buildings thereon, and the appurtenances, for the term of ninety-nine years from the first day of January, one thousand eight hundred and ninety-nine, at the yearly rent or sum of Three hundred and fifty ($350) Dollars, to be paid on the first day of January in each year, and in addition thereto, ninety (90) percent, of the taxes and assessments which may be levied against the real property now owned by the Jamaica Gas Light Company described on the Town map of the Town of Jamaica, by assessment number 3 on Beaver Street, south side, of which the above described property is a part.

And it is agreed, that if any rent shall be due and unpaid or any default shall be made in any of the covenants herein contained, then it shall be lawful for the party of the first

[fol. 2462] part to re-enter the said premises and to remove all persons therefrom.

And the said party of the second part does convenant to pay to the said party of the first part the said yearly rent as herein specified, and at the expiration of the said term the said party of the second part will quit and surrender the premises hereby demised in as good state and condition as reasonable use and wear thereof will permit, damages by the elements excepted, and the said party of the first part does covenant that the said party of the second part on paying the said yearly rent and performing the covenants aforesaid, shall and may peaceably and quietly have, hold and enjoy the said premises for the terms aforesaid.

It is further understood and agreed, that at the termination of this lease, the party of the first part is to take the buildings and improvements on the said land erected by the party of the second part at a price to be agreed upon, and for the purpose of arriving at a price for which said improvements shall be taken the parties hereto shall each select an arbitrator, and the two arbitrators shall select a third, to appraise the said improvements, and the price agreed upon by said arbitrators or any two shall be the sum which the party of the first part is to pay the party of the second part for such improvements.

In witness whereof, the parties hereto have caused their respective corporate seals to be hereunto affixed, and these presents to be signed by their respective Presidents, the day and year first above written.

The Jamaica Gas Light Company, by E. P. Chapman, President. Attest: C. L. E. DeSangey, Secretary.
The Brooklyn Union Gas Company, by J. Jourdan, President. Attest: Edward Ludlam, Secretary.

[fol. 2463] STATE OF NEW YORK,
County of New York, ss:

On the sixth day of January Eighteen hundred and ninety-nine, before me came Elverton R. Chapman, with whom I am personally acquainted, who being by me duly sworn, says: that he resides in the City of New York, Borough of Brooklyn, and is President of the Jamaica Gas

Light Company, the corporation described in and which executed the foregoing instrument; that he knows the corporate seal of said Company; that the seal affixed to the foregoing instrument is such corporate seal; that it was affixed by order of the Board of Directors of said Company, and that he signed his name thereto as President by the like authority and direction.

George R. Evans, Notary Public, #32, N. Y. County.

State of New York,
County of Kings, ss:

On the ninth day of January Eighteen hundred and ninety-nine, before me came James Jourdan, with whom I am personally acquainted, who being by me duly sworn, says: that he resides in the City of New York, Borough of Richmond, and is President of the Brooklyn Union Gas Company, the corporation described in and which executed the foregoing instrument; that he knows the corporate seal of said Company; that the seal affixed to the foregoing instrument is such corporate seal; that it was affixed by order of the Board of Directors of said Company, and that he signed his name thereto as President by the like authority and direction.

John N. B. Kraeger, Notary Public, Kings County, N. Y. (Seal.)

[fol. 2464] PLAINTIFF'S EXHIBIT 148

[fol. 2465] STATE OF NEW YORK:

PUBLIC SERVICE COMMISSION, ALBANY, N. Y.

Case No. 108

Report in the Matter of Standards of Purity, Illuminating Power and Heating Power of Gas, and Standards for the Measurement Thereof in the City of New York and Suburban Territory

August 30, 1922

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[fol. 2467] STATE OF NEW YORK:

PUBLIC SERVICE COMMISSION

(Case No. 108)

Matter of Standards of Purity, Illuminating Power and Heating Power of Gas, and Standards for the Measurement Thereof, in the CITY OF NEW YORK AND SUBURBAN TERRITORY.

New York, August 30, 1922.

At a session of the Public Service Commission of the State of New York held in the city of Albany on the 8th day of June, 1921, it was ordered, on motion of the Commission, that on June 16, 1921, a hearing be had by the Commission as to existing standards of the purity, illuminating power, and heating power of gas, and the standards for the measurement of each thereof, manufactured, distributed, or sold in the city of New York and suburban territory for lighting, heating, or power purposes.

Due notice was served upon the corporations affected, namely:

Consolidated Gas Company of New York,
The Astoria Light, Heat and Power Company,
New Amsterdam Gas Company,
Central Union Gas Company,

The Standard Gas Light Company of the City of New York,
The New York Mutual Gas Light Company,
Northern Union Gas Company,
New York and Queens Gas Company,
The Brooklyn Union Gas Company,
The Newtown Gas Company,
The Flatbush Gas Company,
The Woodhaven Gas Light Company
The Jamaica Gas Light Company,
Richmond Hill and Queens County Gas Light Company,
Kings County Lighting Company,
Brooklyn Borough Gas Company,
New York and Richmond Gas Company,
Queens Borough Gas and Electric Company,
The Bronx Gas and Electric Company,
Westchester Lighting Company.

On June 16, 1921, the day appointed, a hearing was had and appearances for various parties were entered. Hearings were continued on February 6, 1922, and from time to time thereafter through May 26, 1922, when this case was formally closed. The record is in excess of 1800 pages.

[fol. 2468] Witnesses

The following witnesses were examined:

Called as witnesses in behalf of the Commission:

Willian Merrifield, Assistant Engineer, New York Public Service Commission, which position he had held since July 1, 1921, prior to that date having been Chief Gas Engineer, New York Public Service Commission, First District, since July 15, 1919, and, prior to such official connection, engaged in the gas industry since 1891, having filled every position in connection with the manufacture and distribution of gas from laborer to manager, and for five years of that period having been connected with the commercial business of the industry (pp. 176, et seq.)[1].

[1] Page references herein, except as indicated, are to the "Record" in case No. 108.

Charles D. Jenkins, Chief of the Gas Inspection Division, Department of Public Utilities, State of Massachusetts, having been appointed Assistant Inspector of Gas in 1882, and to the office of Chief Inspector in 1893, his duties having been to carry out and supervise inspections of gas as required by law, the witness being a graduate in chemistry of the Massachusetts Institute of Technology.

Edward J. Cheney, a consulting engineer specializing in public utility matters; from December, 1912, Assistant Chief of the Division of Light, Heat and Power of the New York Public Service Commission, Second District, and from May, 1916, Chief of that Division for about four years, as such Chief of Division having had general charge of all technical matters connected with gas corporations and the service rendered by them, this witness having received in 1904, from the University of Minnesota, the degree of Electrical Engineer (pp. 438, et seq.).

Alfred I. Phillips, Service Engineer of the American Gas Association since the first of 1921, a graduate of the Massachusetts Institute of Technology in the course of Mechanical Engineering, who for a period of about twelve years had been engaged in various departments of the gas business, having also served as Associate Gas Engineer of the National Bureau of Standards for approximately two years, and having held positions up to that as Superintendent of Manufacture and Supertintendent of Works (pp. 441-a, et seq.).

Frederick C. Freeman, Engineer of the Providence Gas Company, of Providence, Rhode Island, since March 1, 1919, a graduate of Stevens Institute of Technology as Mechanical Engineer in 1903, and thereafter connected with the gas industry in the departments of design, construction, and operation (pp. 827, et seq.).

Philander Betts, Chief Engineer and Chief Inspector of the Public Utilities Commission of the State of New Jersey [fol. 2469] since 1910, having the degrees of B. S., Rutgers College, 1891, M. S., 1895; E. E., Columbia University, 1903; Ph. D., George Washington University, 1914 (pp. 924, et seq.).

Called in behalf of the Consolidated Gas Company:

George E. Woods, Chief Engineer, Consolidated Gas Company, who had been in the gas business for thirty-eight years, in New York city for thirty years, having become Assistant Engineer of the Standard Gas Light Company in 1892, Chief Engineer in 1895, and General Manager in 1898, Engineer of Manufacture of the Consolidated Gas Company in 1901 and, in 1911, Assistant Chief Engineer of the Consolidated and the Astoria Light, Heat and Power Companies, in these various capacities having had charge both of manufacture and distribution within and without the city of New York, having had relations with the keeping of accounts and cost data, the construction and operation of plants, and the installation of various types of apparatus (pp. 390, et seq.).

John B. Klump, Assistant General Superintendent of the United Gas Improvement Company, Philadelphia, who has been in the gas business for practically twenty-seven years (pp. 409, et seq.).

Called in behalf of the City of New York:

Henry H. Edgerton, who first went into the gas business in 1858, having studied chemistry, physics and those studies which are chiefly mathematical, at Lawrence University, Wisconsin, and in the old country, having attended lectures in School Central, then in Paris at the School of Mines and the School of Manufactures, also a military school, these studies having been pursued up to 1864; Superintendent of the Fort Wayne Gas Works from 1866 to 1872; builder of gas works all over the country after 1872 (pp.1379, et seq.).

William R. Birdsley, in the employ of the City of New York since 1906, engaged in the examination of gas and gas appliances, as a gas inspector up to March, 1913, when appointed Chief Gas Examiner. He described the work of a gas inspector to consist of making physical and chemical examination of the gas supply throughout the city of New York, both as to candle power, heat units, pressure, chemical constituents and chemical impurities (p. 1464). The witness denied, however, that he had ever had any

practical experience in the manufacture of gas, though he had studied along the lines of gas manufacture and had read text books (pp. 1661, 1662).

There was also carried into the evidence of this case the testimony of Mr. A. S. B. Little, an engineer in the employ of the City of New York, who testified in case No. 79-A, which concerned the New York and Queens Gas Company, being pages 2888 to 2896 of the record in that case, and pages 1801 to 1823 of the record in this case.

[fol. 2470] Through the introduction in evidence of certain previous investigations by Public Service Commissions of New York, there became available for the Commission—in case No. 2475, upon the subject of the quality of gas and the gas oil situation—the further testimony of Mr. Merrifield and of Mr. Edgerton, as well as the testimony of a number of other witnesses, and—in case No. 108-A, upon the same subject as here involved—the further testimony of Mr. Klump and of Mr. Little, and that of Mr. H. R. Bogie, Engineer of Manufacture of Kings County Lighting Company, and Mr. R. M. Searle, who had been engaged in the gas industry since 1885, and who testified also in case No. 2475.

Exhibits

The documentary evidence included the following:

Exhibit 2: Statement of "Estimated Savings in Changing from Candle Power Standard to Calorific Value Standard, as of January, 1922."

Exhibit 4: Compilation of State Pressure Regulations (p. 639).

Exhibit 5: Document entitled "Dept. of Commerce, Circular of the Bureau of Standards, No. 32, Standards for Gas Service, 4th ed., Dec. 7, 1920," hereafter referred to as "Circular 32" (p. 641).

Exhibit 6: Pamphlet entitled "Discussion of Lower B. T. U. Standards for Gas," by A. I. Phillips (p. 647).

Exhibit 7: Report to American Gas Association, November 10, 1921, entitled "English Calorific Standards and Their Governmental Regulation," by Alfred I. Phillips (p. 649).

Exhibit 8: Report of the Gas Commission to the Mayor and Council of the City of Philadelphia, dated May, 1921 (p. 712).

Exhibit 11: Statement entitled "Comparative Send-Outs, Providence Gas Company" (pp. 835-848).

Exhibit 12; Statement of comparison of sales (by Providence Gas Company) on 580 B. T. U. and 510 B. T. U. standards (p. 856).

Exhibit 13: Chart showing use in Oakland Villa plat, Providence, R. I. (p. 861).

Exhibit 14: Public Service Gas Company, Newark district. Comparison of metered domestic gas sales of years 1917 to 1921, inclusive, (in 100 cubic feet) 750 accounts (p. 1039).

Exhibit 15: Public Service Gas Company, Jersey City District. Comparison of metered domestic gas sales, first seven months of years 1917 to 1921, inclusive, (in 100 cubic feet), 750 accounts.

[fol. 2471] Exhibit 16: Letter dated March 4, 1922, from Mr. F. C. Freeman, addressed to Hon. Wm. A. Prendergast, Chairman, accompanied by Table entitled "Comparative Sales Per Active Meter, Providence Gas Company," and purporting to cover years 1916 to 1921, inclusive. (Set forth in Record, pp. 1046-1056.)

Exhibit 17: "Summary of tests on illuminating value of gas, Jan. 1-Apr. 25, 1921, Public Service Commission for the First District," relating to "Consolidated System," "Brooklyn Union System," and "Independent Companies" (pp. 1080-1102).

Exhibit 18: Report and tabulations prepared by Mr. Merrifield, entitled "Memorandum for Chairman Prendergast. Subject: Studies of Gas Consumption in Its Relation to Gas of varying B. T. U. content" (pp. 1112-1126).

Exhibit 19: Blue print chart re investigation made by a committee of the Institute of Gas Engineers of England (p. 1175).

Case No. 2320, Public Service Commission, First District, entitled "In the Matter of the Complaint, Petition and Application of the Brooklyn Borough Gas Company, * * * for a Hearing and Investigation as to the Illuminating Power, Stand and Price of Gas" in the 31st and 32d Wards

of Brooklyn, etc., hearings in which were held in 1918 and 1920.

Case No. 2475, Public Service Commission, First District, which was an inquiry upon the subject of the quality of gas and the gas oil situation.

Case No. 7532, Public Service Commission, Second District, which concerned the "Question of Reducing the B. T. U. Heating Value of Manufactured Gas," and in which hearings were held and closed in June, 1920. No determination was made in the matter, however, and the case was formally closed by the present Commission on September 15, 1921.

Case No. 108-A, New York Public Service Commission, entitled "In the Matter of the Kings County Lighting Company," upon the same subject of inquiry as the present case.

The Law Applicable

The authority of the Commission in this matter is covered by the Public Service Commission Law, section 66 of which has reference to "General Powers of Commission in respect to Gas and Electricity" and provides:

"The Commission shall: * * *

"3. Have power by order to fix and change from time to time standards of the purity, illuminating power and heating power, and standards for the measurement thereof, of gas to be manufactured, distributed or sold by persons, [fol. 2472] corporations or municipalities, for lighting, heating or power purposes, notwithstanding that other standards of the purity, illuminating power and heating power of gas and standards for the measurement thereof, may have been fixed by general or special statute".

Neither by general nor special statute applicable to the City of New York has a standard for "heating power of gas" been fixed. However, in chapter 125, Session Laws of 1906, provision is made with respect to "illuminating power," and section 2 thereof reads as follows:

"§2. The illuminating gas furnished by any such corporation, association, copartnership or person shall have an illuminating power of not less than twenty-two sperm

candles of six to a pound, burning at the rate of one hundred and twenty grains of spermaceti per hour tested at a distance of not less than one mile from the distributing holder by burner consuming five cubic feet of gas per hour, and each one hundred cubic feet of gas shall not contain more than five grains of ammonia nor more than twenty grains of sulphur nor more than a trace of sulphuretted hydrogen. The pressure of illuminating gas in any service mains in the said city at any distance from the place of manufacture shall not be less than one inch, nor more than two and one-half inches."

There had been a previous and similar statute enacted in 1905, but it was applicable to the supply of gas to the city of New York, while the Act of 1906 related to the supply of gas to all consumers, as well as the city.

Scope of Inquiry

In the disposition of a case of this character, perhaps the line of least resistance is indicated by the instance of Wisconsin, where the investigation conducted in 1907 and 1908 was to "determine the heating value the companies were actually furnishing at that time. As a result, a standard of 600 B. T. U. was adopted". (A. I. Phillips, Discussion of Lower B. T. U. Standards for Gas, Exhibit No. 6, p. 6). Commenting on the Wisconsin investigation, Circular 32, as quoted in Mr. Phillips' "Discussion," stated:

"The conclusion reached was that a majority of the companies were furnishing gas of 600 B. T. U. per cubic foot or higher and that, where this condition existed, reasonable satisfaction to the customer was to be found. A requirement of 600 B. T. U. was therefore prescribed by the Commission. Indeed, at that time no other basis than the previous practice could have been chosen, since practically no data were then available as to the relative cost or the relative usefulness of gases of different heating value."

Mr. Phillips then proceeded to quote from the report of the Massachusetts Board, which investigated the subject in 1916, as follows:

"But the problem has seemed to the Board broader than the mere adoption of a heat value in connection with and

perhaps later in substitution for a candle power standard. The consumer pays for whatever is used in the production [fol. 2473] of the gas supplied. If he is paying for something which does not finally reach him, or if a large majority of consumers are paying for something which, in view of the use made by them, is of little or no value when delivered, then it may well be that a different quality of gas will be of more service, and that this difference may be defined in a calorific standard materially lower than one designed merely to continue present conditions. This certainly has seemed to be the motive leading both England and Canada not only to substitute heat value for candle power in gas testing, but to adopt a much lower minimum than has been undertaken in the very general movement towards a heat value standard throughout this country."

Mr. Phillips then points out that at the end of an experimental period of seventeen months the Massachusetts Board fixed a minimum standard of 528 B. T. U., "this being the lowest state standard in existence in this country at the time". (Phillips' "Dicussion," p. 7).

"Thus with but one exception, the heating value standards of a few years ago were really inheritances from the days of open-flame lights. * * *

"Under the circumstances, it is not surprising that, as the earlier heating value standards followed those of Wisconsin, so the later ones have conformed quite closely to that finally fixed in Massachusetts a little over three years ago."

This investigation would be at once simplified if it were the fact that the best gas service is to be obtained through the manufacture and supply of gas of high heating value; but that is one of the points of the inquiry, and the Commission is not to be swerved from its public duty to inquire into and determine the most efficient standard merely because certain parties, by dignified petition or otherwise, signify their opposition to the abandonment of the 22 candle power standard because of its ordinarily high B. T. U. content, or object, by reason of misinformation or otherwise, to the fixing of a B. T. U. standard within the range of such standards as have been adopted throughout

the country and abroad, in fact, in practically every place of importance in the United States except the city of New York and vicinity.

Historical

The development of the gas industry is instructive. The early process of manufacture was coal gas, until between 1870 and 1880 (p. 471-a), when the water gas process was developed and there resulted bitter competition between the coal gas and water gas interests, the latter endeavoring to displace coal gas, having a process by which high candle power gas could be produced by the use of oil for enriching purposes. The records show that illumination up to 40 candle power was obtained through the open flame burner. Mr. Phillips, in his testimony, attributed the development of the water gas process to the discovery of petroleum oil, the nap-tha content of which, corresponding to the gasoline [fol. 2474] of the present day, being a waste by-product, could be purchased for two or three cents a gallon. But high candle power, causing a smoky flame in the burners then used, the water gas industry reduced candle power values to about 20 to 22, this fact being reflected in the standards fixed in various cities (p. 473-a).

Mr. Phillips, in his "Discussion of Lower B. T. U. Standards for Gas," which was presented before the Missouri Association of Public Utilities in April, 1921 (Exhibit No. 6), sketched the history of the gas industry, beginning as follows (p. 4):

"The first company in the world for the general manufacture and distribution of illuminating gas was incorporated by Parliament in the city of London in 1812. Four years later our industry found a place in this country, when a company was established in Baltimore, Maryland. Thus the gas business is just a little more than a century old.

"At first gas was merely 'gas' to the consumer, and its quality received comparatively little consideration. But, within a surprisingly short time after our industry had become an established going business, we find reference to standards. In fixing these, there were two determining factors:—first, all or practically all gas was used for

illuminating purposes in open-flame burners; second, all gas was made by the coal gas process. The first determined the type of standard, and open-flame candle power was naturally adopted, since it was the best measurement of the usefulness of the gas to the consumer at that time. The second, the process of manufacture, determined the value which it was economical and practicable to require under the then existing conditions."

The first important change in the gas industry being the introduction of water gas as testified by Mr. Phillips it was followed by a change in the purposes for which gas was used. "The incandescent mantle was invented; gas came to be used for cooking, water heating and industrial purposes, and to-day the quantity of gas used throughout the country in flat flame burners, which are the only appliances which depend on the candle power of the gas for their usefulness. * * * has become exceedingly small. The preponderance of the gas now used is for heating purposes. The Welsbach mantle, incandescent mantle, depends, not on the candle power of the gas for its usefulness, but on the heating value of the gas. In fact, a colorless flame is used in heating the Welsbach mantle. Manifestly, candle power is not the useful element in cooking operations. It is the heat produced. The same way in water heating; the same way in industrial operations. This has led to a consideration of the adoption of heat value standards to replace the candle power. In other words, to adjust the standards to the new uses of gas." (pp. 474-a, 475-a).

He testified further:

"The first real attempt in this country to determine what would be the best heating value standard to adopt in substitution for the existing candle power standards was Massachusetts (p. 477-a). * * *

[fol. 2475] "The war caused a shortage of high grade gas making materials, and as a result it became necessary in a number of places to reduce the heat value standard for purposes of conservation, and because of the high cost of producing gas of high quality or high heating value" (p. 480-a).

"Most commissions," continued Mr. Phillips in his "Discussion," "are now alive to the need of studying, not only the practical manufacturing considerations, but also the consumers' side of the problem. * * *

"Economic conditions will change, and we may expect additional information as to utilization economy. Even the lower present-day standards are probably only temporary and transitional. To render maximum service the future development of our industry demands even further reductions" (Exhibit No. 6, p. 7).

Manufacture of Gas

"Manufactured gas is not a single gas, but is a mixture of a considerable number of gases" (Phillips, p. 483-a).

Mr. Merrifield testified that the kinds of gas manufactured in New York city are "carbureted water gas, coal gas; I think there is some Pintsch gas manufactured, and some of what is known as Blau gas" (p. 178). But he did not know what proportion of the gas distributed in New York city is carbureted water gas, "nor do I know the amount of coal gas made from time to time, but I might add to that in this way, that all the gas produced on the Brooklyn side of the river, distributed on the Brooklyn side of the river is carbureted water gas, and the gas distributed in Manhattan and the Bronx is partly carbureted water gas and partly coal gas, or rather a mixture of carbureted water gas and coal gas. Coal gas from ten per cent. to twenty per cent. The figure would run between ten and twenty per cent. of the coal gas and the balance carbureted water gas" (p. 216).

According to Mr. Woods, "the proportion that the Consolidated system is operating is 20 per cent. coal gas and 80 per cent. (carbureted) water gas" (p. 404).

Coal gas is made from bituminous coal. "The process known as the destructive distillation of coal means the confining of a certain quantity of coal in an air-tight retort. This retort is subjected to heat indirectly applied. That is the coal in the retort does not furnish itself any of the heat necessary for the distillation of the coal. The application of the heat in this manner removes from the coal its volatile constituents which are collected in suitable devices, leaving

behind a by-product coke, the solid-carbon in the fuel—in the original coal" (Merrifield, p. 179).

The quality of the gas so produced depends upon the quality of the original coal. "Ordinarily fair coal gas would have a candle power of between fourteen and sixteen candles per cubic foot, and would have a heat content between 580 and 600 B. T. U. per cubic foot" (Merrifield, p. 180).

[fol. 2476] "Water gas is produced by the breaking up of steam into its original elements of hydrogen and oxygen by contact with incandescent carbon in a fuel bed. The gas thus formed is theoretically 50 per cent. carbon monoxide, and is generally known as blue water gas" (Merrifield, p. 182).

There is practically no luminosity in blue water gas. "It burns with a blue flame, just sufficient luminosity to show you where the flame is without throwing any light around the surrounding objects" (Merrifield, p. 183).

Roughly speaking, blue water gas has a heat value of about 300 B. T. U. per cubic foot, but can be made available for illumination through a flat flame burner "by mixing it with gas composed in part of what is commonly known as illuminants or heavy hydrocarbons." But blue water gas "burned through a mantle burner will give illumination" (Merrifield, pp. 214, 215), "because of the fact that the luminosity of the mantle is in no way dependent on the luminosity of the gas, but upon the heating value of the gas" (p. 1137).

Blue water gas, supplemented by gas made through the vaporization or gasification of oil is known as carbureted water gas. The mixture will be of any B. T. U. desired above 300 and will give the degree of luminosity equal to the illuminants or heavy hydrocarbons contained in the original oil (Merrifield, p. 215).

Ordinarily, the quantity of oil used per thousand cubic feet of gas to produce gas of 22 candle power is "something in excess of four gallons," though the quality of the oil is important, and the oil particularly referred to is that generally described as six-candle oil, which would mean the production of about 24 candle power gas at the plant and 22 candle power at the testing point, usually distant a mile or more from the point of manufacture (Merrifield, pp. 221, 222). Mr. Woods testified that "we run anywhere from 3.75 to 4.75 gallons of oil, depending upon the time

of the year," to produce 22 candle power gas (p. 396). He made certain computations of cost of manufacture, however, on the basis of 4.10 gallons of oil per thousand cubic feet of gas produced (Exhibit No. 2).

"Oil contains three series of hydrocarbons: liquid, solid and gaseous. The gaseous hydrocarbons produced from the oil carry the illuminants found in the finished gas. The percentage of illuminants in a mixed gas where one gallon of oil is used per thousand is so small that they are not perceptible in the sea of the surrounding gases. * * * That holds true with respect to two gallons of oil for each thousand and somewhere between two and two and one-half gallons the illumination appears. So you start with a practically non-luminous gas after using two gallons of oil, but the addition of two additional gallons will produce a 22 candle power gas" (Merrifield, p. 223).

As to the quantities of oil generally required to produce gas of various degrees of heating value, Mr. Merrifield testified in case No. 108-a (p. 55), that 1.06 gallons will produce [fol. 2477] gas of 400 B. T. U.; 2.7 gallons, 525 B. T. U., 3.67 gallons, 585 B. T. U.; and 4.1 to 4.3 gallons, 22 candle power gas.

As testified by Mr. Phillips, the heating value of manufactured gas "is dependent upon the quantity of the different constituents present. The illuminating value is dependent mainly upon certain elements known as illuminants. * * * The illuminants furnish practically all the illuminating value. The combustible elements together give the gas its heating value. In addition there are three main constituents which are present in small quantities, which have no heating value or illuminating value and are merely inert gases. * * * carbon dioxide, nitrogen and oxygen" (p. 483).

"In coal gas the percentage of illuminants is somewhat lower than in water gas. * * * In water gas the quality will depend upon the quantity of oil used in carbureting" (p. 486).

The importance of these facts was emphasized by Mr. Phillips, who further testified as follows (p. 493-a):

"The practical manufacturing conditions would determine the standard to this extent: The type of plant in use

by the company should be taken into consideration, for this reason—that a coal gas plant can produce gas over a certain range of B. T. U. to good economy. When you go above that range that gas must be enriched in some way. If you go below that range it must be diluted with a combustible gas of lower heating value or with inerts, and the dilution by inerts is exceedingly undesirable in most cases. Where it has been practiced, as in England in certain places, it should be under the most careful technical supervision, or otherwise serious difficulties will arise, not only with the service, but with the distribution system of the company. Of course, water gas can be economically produced over a wide range of heating values, that is, comparatively economically produced. It is merely necessary to enrich the gas with a greater or less quantity of gas oil per thousand cubic feet of gas. Blue water gas, which is that produced by the action of steam on coal in a generator of a water gas machine, will average about 300 B. T. U. per cubic foot, and the additional heating value will be obtained from the gas oil."

These are the practical considerations which bear directly upon the subject of standards intelligently fixed for the purpose of serving the best interests of the consumer; there are also problems of distribution.

Standards Generally

According to Mr. Little, "there are two methods" of determining the quality of gas, "one of which is considered obsolete, and is the test for candle power, and the other, or modern method, takes into account the heating quality of the gas as expressed in B. T. U." (p. 1803). These are the standards of "illuminating power and heating power" mentioned in section 66 quoted above, and with these two methods we are here primarily concerned.

[fol. 2478] Circular 32 (Exhibit No. 5, p. 9) states:

"In the early days of the industry gas was used almost exclusively for lighting, and at that time the brilliancy of its open flame was the quality which was of greatest importance. In recent years, however, it has come to be used more and more for heating purposes; gas ranges and water

heaters, as well as many types of industrial appliances, have come into general use, while mantle lights, which also depend for their effectiveness upon the heat in the gas rather than the brilliancy of its open flame, have in most cases replaced the inefficient open-flame burner. Thus ability to produce heat has come to be the most important characteristic of gas, and its open-flame candle power is seldom mentioned in recently adopted regulations."

Mr. Merrifield testified that standards for gas vary throughout the United States "from 525 to 600 B. T. U. per cubic foot," adding, "Canada, as I understand, has got a 450 per cubic foot, and Tokio, Japan, has got 400 B. T. U. per cubic foot" (p. 217).

Mr. Phillips produced, and there was copied into the record, a tabulation of "Heating value standards fixed by State Commissions as of April 1, 1921," corrected, however, to date of testimony, February 17, 1922. For convenience it is here set forth (pp. 452-4-a, 455-7-a, 458-9-a).

Candle Power Standard Defined

The "illuminating power" referred to in the Act of 1906 is synonymous with "candle power." There is no ambiguity in the Act requiring interpretation, though we may refer to Mr. Merrifield's testimony that the term "22 candle power as applied to gas, means that gas burning through an open-flame burner at the rate of five cubic feet an hour will produce a light equivalent to that of 22 candles of a certain standard" (p. 181). Mr. Phillips, also, having testified with respect to candle power, that it "is not an intrinsic quality of the gas; it is the light that you are able to produce by it when you use it in a certain particular burner" (p. 506), it is manifest that the candle power standard has direct relation to the burner, or appliance, through which the gas is used, and, also, to the purpose of utilization, namely, to give illumination.

But the body of consumers is concerned with the function of the service in all the departments of its application, and, accordingly, it would seem that the uses of gas through modern appliances serve somewhat to indicate the standard which should be observed in gas production.

If in the public mind fear be entertained lest a departure from a standard constituting the true measure of service when gas is used through an open flame burner shall mean a decrease in efficiency when used through all other appliances, as well as when used through open flame burners, it may be stated at the outset as the uncontroverted facts that candle power of gas is representative of its value to the consumer only when used through an open flame burner, that [fol. 2479] only a very small proportion of the gas utilized is through such a burner, and that all other gas appliances, domestic and industrial, for cooking, heating and power purposes, function to employ the heating power of the gas and not its luminous constituents.

Heating Standard Defined

It is the modern method of testing gas that "takes into account the heating quality of the gas as expressed in B. T. U.'s" (Little p. 1802).

The British Thermal Unit was defined by Mr. Merrifield as "a unit of heat measurement indicating the quantity of heat necessary to increase the temperature of a pound of water one degree Fahrenheit" (pp. 181, 182).

For the purpose of elucidation, it is unfortunate that the heat value of gas is not to be visibly appraised, and that the measurement of gas quality according to its British Thermal Unit content involves terms and considerations unfamiliar to those who champion the luminous gas necessary for the highest efficiency of the open flame burner, notwithstanding the greater illumination to be procured through the mantle burner. They must realize, of course, that illuminating gas has heating value, and rightly or wrongly they may conjecture that high candle power gas has high heating power. Indeed, the Assistant Corporation Counsel asked Mr. Jenkins (p. 359):

"Can you furnish a high candle power gas without necessarily at the same time furnishing high B. T. U. gas or a gas having a high thermal content?"

Mr. Jenkins thought that in a general way high candle power gas would entail and show a high B. T. U., but he testified that he could conceive of gases that might not do so.

Relation of Candle Power and Heat Value

Thus there is the further preliminary point to be indicated, that there is no direct relation between candle power and heating power. It was the subject of inquiry throughout the investigation; and any such relation is expressly denied by the expert witness.

However, as testified by Mr. Merrifield, "22 candle power gas made from carbureted water gas is generally recognized as having a B. T. U. content of between 640 and 660. I should say 650 is an average B. T. U. of 22 candle power gas" (p. 219). But in some instances, the witness stated, tests of 22 candle power gas have shown 700 B. T. U. content (p. 221). On the other hand, 550 B. T. U. gas "gives a light of approximately 16 candle power," where it is used through the open flame burner (p. 231), though gas from bituminous coal, that is, coal gas, "under standard conditions of operation will furnish about 580 to 600 B. T. U. with a candle power of about 15 or 16" (p. 280). Here the witness added that "gas whose candle power depends upon the addition of gas made from an enriching oil is so variable that it is not possible, I believe it is not possible, [fol. 2480] to fix any point where candle power and B. T. U. show a distinct relation" (pp. 260, 261).

Assuming the production of gas in the proportions of 20 per cent coal gas and 80 per cent carbureted water gas, Mr. Phillips stated that approximately, 525 B. T. U. gas would be of 13 to 14 candle power; 550 B. T. U. 15 to 16 candle power; and 575 B. T. U., about 17 candle power.

Mr. Jenkins was asked if in the tests made in Massachusetts any definite relation was established between the candle power and the heating value of gas, and he replied (p. 324):

"We do not find any apparent relation between the two methods of valuing gas."

Continuing, he said:

"We started out on this rather large scale investigation to find out how well companies could make gas to a heating standard rather than a candle power or lighting standard, and apparently the gas is not made in exactly the same way. In other words, you are aiming at different objects in making the two qualities of gas."

Further he said (pp. 358, 359):

"When you are making candle power gas, you want to deliver to the consumer's burner as much of the illuminating gases or vapors as you can * * * to make what we call a soft gas, a gas that is tender, whose constitution might be disturbed by pressure or temperature. When we are making a B. T. U. gas we endeavor to make a hard gas, one whose quality shall be uniform if possible from the testing station to the consumer."

Utilization of Product Generally

As stated above, Mr. Phillips testified that the second important development in the gas industry was the change in the purposes for which gas was used. "The incandescent mantle was invented; gas came to be used for cooking, water heating and industrial purposes" (p. 474-a).

Use for Purposes of Illumination

"In order to secure luminosity in the open flame burner, the gas must have a certain proportion of what are commonly known as illuminants or heavy hydrocarbons, and on primary combustion there is a greater quantity of free carbon liberated because of the presence of those illuminants, and the luminosity of the gas depends upon the quantity of free carbon liberated from these particular constituents. It is entirely possible to get a very high degree of luminosity from a mantle burner with an entire absence of these heavy hydrocarbons" (Merrifield, p. 1139).

In further explanation, Mr. Merrifield said (p. 1139):

"There is no definite relation between the heat value of the gas and its luminosity when burned in an open flame burner, because the factors which contribute 75 per cent to luminosity contribute somewhere about 8 or 10 per cent of the heat value, so that it is entirely possible to reduce [fol. 2481] the luminosity by 75 per cent with 8 per cent reduction of the heat value of the gas. When it is realized that all that is required in the mantle is heat, it can be understood."

"The gas which is required to furnish luminosity to an open flame burner must have a different composition than

will give luminosity to a mantle burner" (Merrifield, p. 1140).

Flat Flame Burners:

Specifically with respect to these appliances, it is to be further observed that when gas is used through them "the combustion of the hydro carbons in the gas produces free carbon, which is raised to incandescence by the application of heat" (Merrifield, p. 224).

"The luminosity produced through burning gas from the open flame burner is due to the presence in the gas principally of the toluol and benzol series of hydro carbons. These particular elements can be entirely abstracted from the gas without affecting it" (Merrifield, p. 1142).

Mr. Phillips testified:

"The action of the gas in an open flame burner is about as follows: The gas comes through the slit or through the jets of the open flame burner, depending on which type of burner it is, the fishtail or the bat wing type, and the first action is a combustion of some of the gas. The heat is produced by that combustion and the illuminants in the gas which are not in contact with the air—with the air in the upper part of the flame—are heated to such a point that they break down into carbon particles and hydrogen. The hydrogen gives no light, but the carbon particles on the interior of the flame are heated to incandescence by the heat of the gases burning on the exterior flame, and they therefore give off light. As they get past the tip of the burner and air finds its way in, these carbon particles are in turn consumed, or, if they are not, there will be a smoky flame and lamp black coming off from it" (p. 823).

Mr. Merrifield was unable to state what proportion of gas manufactured and distributed in New York and vicinity is used for illuminating purposes generally (p. 265), testifying, however:

"I do not recall now just the figures or the different percentages of different methods of gas utilization, but from my general knowledge and general observation of conditions I think I would be safe in saying that much less than ten per cent. of the gas made is used through flat flame burners." (p. 266, see also p. 218). He added that it is

difficult to believe that any person would use an open flame burner when they could get better service for less cost with a mantle, "that is, greater illumination for a less quantity of gas used" (p. 267).

Mr. Woods testified that in his judgment 80 per cent of the entire output of the companies under his authority is for heating, cooking or power purposes, leaving 20 per cent for lighting both in flat flame and mantle burners, specifically stating: "I personally do not think that five per cent. [fol. 2482] of our business is represented in flat flame burners" (pp. 405, 406).

Mr. Merrifield had occasion to conduct an inspection of the territory of the Kings County Lighting Company to determine the extent of the use of open flame burners. As a result of that inspection he testified that it was used "principally in the hallways of tenement houses" (p. 219), that the type of burner used in hallways is generally not large enough to furnish a 22 candle power light, even if gas of that quality is delivered to the burner. "They are usually snubbed down to deliver about one or two feet of gas per hour, and 22 candle power depends upon gas being burned at the rate of five cubic feet per hour * * * Some of the apartments visited had mantle burners exclusively, some had part mantle and part open flame, and some open flame exclusively" (p. 219).

"Tests show that open-flame burners do not develop the whole lighting value of gas as determined by the official burner; the loss is from 7.3 per cent. for coal gas to 52.5 per cent. for water gas. Open burners vary in efficiency among themselves, the tests ranging from 28.6 to 69.3 per cent. of the true lighting value of the gas" (Jenkins, p. 376).

Mr. Phillips' observation is that "the gas used in flat-flame burners has become exceedingly small" (p. 474).

Colonel Betts, of New Jersey, testified:

"There have been a great many analyses made, based on the examination of appliances, showing that a very small proportion of the gas is used for flat-flame burners. That has been made up by a census of the appliances using gas, which is taking into account the heat pads, gas ranges and

mantle burners, because you remember most of the mantle burners were at one time sold by the gas companies and the gas companies have had a pretty good idea as to what has been done in many customers' premises in the way of installing mantle burners. Now that the 5-and-10-cent stores and every other store sell mantle burners, it is pretty difficult to say how far they have replaced the flat-flames. But since the illuminating value has been reduced, it is pretty safe to say that there are not many people using flat-flames where they expect to get any great amount of illumination. They are using them in the way of small flames, burnt during the night, night lights and things of that kind, but I have never seen any exact data and I do not know whether anything has been actually taken up that would be comprehensive—I mean that would really involve a complete count of all the fixtures in every house" (pp. 966, 967).

Mr. Klump testified in case No. 108-A that the proportion of gas sold for consumption in open flame burners is below five per cent, probably one or two per cent (108-A, p. 52).

Mr. Freeman referred to an open flame burner called the Jumbo, which will burn perhaps nine feet of gas an hour. He added that all open flame burners do not burn exactly [fol. 2483] the same (p. 895). And Mr. Merrifield said that flat flame burners deliver anywhere from one to ten cubic feet of gas per hour (p. 237).

Mantle Burners:

"The luminosity of the mantle is in no way dependent on the luminosity of the gas, but upon the heat value of the gas, which, applied to the structure of the mantle, raises it to incandescence" (Merrifield, p. 1137).

Mr. Merrifield further testified that when gas is delivered to a mantle burner, and before it reaches the point of ignition, it "meets with a certain quantity of air, regulated so as to provide, upon ignition, what is known as a perfect combustion through a proper mixture of air and gas. The air has the effect of consuming the heavy hydrocarbons without liberating free carbon" (p. 224).

Gas of 22 candle power requires 6 to 7 parts air to one of gas (Merrifield, p. 240).

The heavy hydrocarbons in the gas being destroyed in the air, there occurs in the mantle burner a blue flame, which distributes its heat to the material of which the mantle is constructed. This material is "merely certain earths of a rare kind which will withstand heat and which will become incandescent upon the application of heat to them" (Merrifield, pp. 224, 225).

The luminosity of the Welsbach mantle is dependent upon its incandescence, but this does not depend upon the illuminants which are some of the series of hydrocarbons in the gas furnished (Merrifield, pp. 228, 229).

The adjusting device upon a mantle burner is a sliding valve or shutter arrangement "whereby a certain quantity of air is admitted to mix with gas in the mixing chamber, which is located before the point of ignition. The adjustment is effected by observation" (Merrifield, p. 239).

Adjustment of a mantle burner may not be made so that at all times it is suitable for the use of gas maintained at 22 candle power at the testing station, and while an adjustment might be suitable if 22 candle power gas were furnished to the consumer constantly, the variation in the quality of the gas may be so great as to destroy the efficiency of the adjustment (p. 242), resulting, of course, in a character of service less satisfactory than that to be obtained through proper adjustment at all times.

Mr. Merrified further thought that gas enriched with two gallons of oil and delivered to the mantle burner would produce the same character of luminosity through the mantle as gas which might have in it four gallons per thousand cubic feet (p. 226), and that it is not essential for the use of gas through a mantle burner that there be present in the gas any of the illuminants which are some of the series of hydrocarbons (p. 228).

"The effect of the admission of air is to destory the luminosity of that 22 candle power gas, so that the mixture [fol. 2484] at the point of ignition does not show any evidence of the presence of illuminants" (Merrifield, p. 241).

Mr. Klump testified in case No. 108-A:

That there are different types of mantle burners, that the Bunsen burner has an opening permitting the entry of air to mix with the gas so that when the gas is lighted it

is non-luminous, that the air being mixed with the gas before it burns, the particles of carbon are burned, thus preventing a deposit of carbon (Case No. 108-A, Record, p. 52).

That it is not the gas which gives light, but the heat of the mantle, which is an ash woven fabric, saturated with rare earth, and when it is heated to incandescence it gives forth light (p. 53, Id.).

That high candle power gas should not be used in the mantle burner, as the hydrocarbons may cause a blackening of the mantle by reason of lack of air in the burner (p. 57, Id.).

That since the standard in Philadelphia was changed from 22 candle power to 530 B. T. U. the cost of supplying mantles for use in the street lamps has been reduced 50 per cent (p. 58, Id.).

That a mantle light will burn less gas of 525 B. T. U. content than of 22 candle power gas (p. 293, Id.).

Though the most skeptical must admit that there is no comparison between open flame and mantle burners, the following observations may be briefly indulged:

Mr. Merrifield testified:

"Gas through an open flame burner has never as long as I remember, been considered as affording proper illumination" (p. 232).

Mr. Klump aptly said in case No. 108-A that there is about five times as much candle power in the mantles as there is in the corresponding quantity of gas (Case No. 108-A; Record, p. 53).

"My recollection of tests made on mantle burners by employees of the Public Service Commission in its laboratory in Walker street, New York city, is that gas burning through a mantle gives a light approximating 60 candle power, with a consumption of approximately three cubic feet per hour" (Merrifield, p. 238).

If this be true, each cubic foot of gas consumed per hour affords an illumination equivalent to 20 candle power when the mantle burner is used; whereas if five cubic feet of gas pass through an open flame burner per hour and give only 22 candle power, it is obvious that the illumination per cubic foot per hour is only a little over four candle power (p. 238).

Mr. Phillips stated the matter generally, "that the mantle light will give per cubic foot of gas supplied probably four to five times as much light as an open-flame burner under the present conditions" (pp. 512, 513).

[fol. 2485] Mr. Freeman testified in words or in substance as follows:

"With our present gas (in Providence) with a 5-foot per hour you will get from 100 to 110 candle power" on a Welsbach burner; but through an open flame burner "you would get only 10 candle power" (p. 886).

"Now, if you get ten times the amount of light on our gas with the same amount of money, a person would be foolish not to change over to a Welsbach burner, and the people are coming to Welsbach burner use. Some of them still do maintain an open-flame burner in the cellar, where they just want a little bit of light, enough to get around by, but other than that in the homes they are coming to Welsback burner use" (p. 886).

On 580 B. T. U. Gas the consumers in Providence got from 110 to 125 candle power in mantle lights (p. 889).

Usually on the 5-and-10 cent store mantles there is no air adjustment, and after five hours' use the light produced decreases. A good Welsbach burner will only lose 10 per cent of its lighting qualities after 1300 hours' use (p. 893).

As above stated, Mr. Phillips testified:

"With a reduction in the quality to any figure which has been made * * * there will be still sufficient illuminating property to give a reasonably good light in the open-flame burner in any place where an open-flame is economical for use." (pp. 511, 512).

This fact disposes of any fear that the open flame burner must be scrapped, or that those who use such an appliance, exclusively or partially, will be deprived of the reasonable service to which they are entitled under all the circumstances incident to the interests of the consumers as a whole.

Use for Heating Purposes

Although the testimony was developed in greater detail with respect to the uses of gas for the purpose of illumina-

tion, perhaps because there exists a basis for comparison of quality and effect capable of appreciation without more than general knowledge of the subject, there is to be recalled the testimony of Mr. Woods that 80 per cent of the gas utilized in New York city is for heating, cooking and power purposes (p. 405).

It has been set forth above as the testimony of Mr. Phillips that "the preponderance of the gas now used is for heating purposes. * * * Manifestly, candle power is not the useful element in cooking operations. It is the heat produced. The same way in water heating; the same way in industrial operations" (pp. 474-a 475-a).

With reference to gas utilization, Mr. Cheney covered the situation, briefly and thoroughly, as follows (p. 484):

"I think that a heat unit standard today, a heat unit standard of some kind, is preferable to a candle power standard. It measures directly the quality of the gas in which the consumer is primarily interested, with only a few insignificant exceptions. A heat unit standard means that the [fol. 2486] gas will be fairly uniform as regards heating quality, and, therefore, that appliances, stoves, mantle burners, water heaters, all devices which use gas for the purpose of utilizing the heat, may be adjusted for that quality and will stay in approximately correct adjustment: whereas a candle power standard means necessarily that the heating content will vary from day to day and from month to month, and the ordinary domestic appliance is adjusted for and responsive to the heating content of the gas and is not affected by the candle power, with the result that as the heating content varies, the appliance is more or less out of adjustment."

To amplify the observations above on the subject of mantle burners and the mixture of air Mr. Cheney testified that a greater proportion of air is required for a rich gas (p. 491). Mr. Merrifield was specific that gas of 22 candle power requires six to seven parts of air to one of gas, while gas of 500 B. T. U. requires only three and one-half to four parts air (p. 240).

The effect of the introduction of air, according to Mr. Cheney, is to dilute the gas. "The nitrogen is an inert which has to be heated up. Nitrogen does harm. The

oxygen, of course, is essential to cause the combustion. As far as the ordinary domestic appliance is concerned, probably the most serious difference is that it is difficult or it is impossible, I think, to get entrained as primary air so-called the air that is drawn into the Bunsen" (p. 492).

"Primary air is the air that is drawn into the Bunsen and mixed with the gas before it is actually used, so it is mixed with the gas before it escapes from the ports or little orifices in the burner. The secondary air is the air which comes from the air that surrounds the appliance, and just simply mixes with the flame as it burns after the gas has escaped from the orifices. It is impossible with rich gas to get enough primary air entrained to give you complete combustion, so that the flame has to rely to a large extent upon secondary air, which means that the combustion does not take place so quickly or so near the orifice or the ports of the burner from which the mixture escapes. So with a richer gas you get a longer, a lazier flame" (Cheney, pp. 492, 493).

Continuing, Mr. Cheney said (p. 494):

"The flame temperature, combustion temperature, is a function of the quality of the gas, but you get it concentrated in a hotter flame usually with the leaner gas where you can get more primary air. * * * Of more effect probably than the difference in flame temperature is the concentrated flame, more concentrated combustion, shorter flame, which permits you to get the apparatus or appliance to be heated in closer proximity to the flame and enables more efficient transfer of heat from the flame to the object to be heated."

Mr. Phillips agreed that "the lower heating value gas gives a shorter, more concentrated flame," adding, "The [fol. 2487] closer you can bring the cooking utensil to the top of the burner (as you can with the shorter flame) and thus get complete combustion, the better will be the efficiency of operation" (Phillips, p. 501).

"There is also a slight increase in the flame temperature in the lower heating value gas * * * Welsbach mantle increases its brilliancy very rapidly with increase in flame temperature" (Phillips, p. 499).

Mr. Merrifield defined flame temperature as "the temperature given off by gas upon combustion" (p. 1135).

"Flame temperature to the actual domestic consumer," said Mr. Phillips, "I do not believe outside of the mantle lights is of very great importance" (p. 501-a), and "in certain high temperature industrial operations that increase in flame temperature is also helpful" (p. 499-a).

"In high temperature industrial operations flame temperature is important, more important than in domestic, very much" (p. 502-a).

Colonel Betts testified:

"Illuminating gas of 500 B. T. U. has a slightly higher flame temperature than 600 B. T. U. gas. * * * The chemical combustion is slightly different in its character. * * * In a 600 B. T. U. gas you have certain hydrocarbons that you have got to heat up, and you waste heat that way. * * * Flame temperature is entirely a function of the character of chemical combustion" (p. 1016).

Mr. Freeman affirmed that to a degree flame temperature is dependent on the heat content of the gas, and unqualifiedly stated that " it is dependent upon the specific heat products of combustion" (p. 868).

An appliance adjusted to 650 B. T. U. gas, Mr. Merrifield said, will function with 600 B. T. U. To quote Mr. Jenkins, the ordinary appliance "will take care of reasonably well a variation of about 40 or 50 or so B. T. U.'s" (p. 386). But as stated above, variation in quality—heat value—may be so wide as to result in destroying the adjustment.

The fact, therefore, that there must be an adjustment has direct relation to gas quality, and if the adjustment is to function serviceably it must be directed to a gas the quality of which will not vary beyond the points to which the adjustment is adaptable.

Mr. Klump testified in case No. 108-A (p. 46) that the principal advantage of B. T. U. gas over candle power gas is uniformity; that it can be burned with a fixed ratio of air; and that no further adjustment is necessary after once properly adjusted.

Hence it is that from the standpoint of adjustment, the question is as to the extent of possible variation in the quality of gas produced, and Mr. Phillips testified that "the variations under a candle power standard * * * will [fol. 2488] be much greater than under a B. T. U. standard" (p. 488), and "the mere adoption of heating value, therefore, in substitution for the candle power is a step in the right direction, regardless of the lowering of the heating value standard" (pp. 510-a, 511-a). "With a lower heating value of gas. * * * you permit of a narrower variation in the quality of the gas" (p. 510-a).

Recurring to Mr. Cheney's testimony, which is quite along the same general lines, he indicated that "efficiency, as a measure of the useful work compared with the B. T. U. content of the gas, would increase as soon as you began to decrease the heat content," that "efficiency does not necessarily mean that you would perform a given operation with less gas" (p. 495).

Industrial Uses

As Mr. Phillips covered this subject quite thoroughly at one stage of his testimony, it seems unnecessary to here refer to the statements of other witnesses, but only to quote from Mr. Phillips. He was asked how the utility value of 22 candle power gas compared with that of 550 B. T. U. gas, viewing the matter from the standpoint of industrial users. His answer is as follows (p. 659).

"I would say that that would depend largely on the conditions under which the gas was used by the industrial consumer. The industrial uses of gas are very diversified and the conditions under which it is used are equally diversified. There is also the question of the care of the apparatus in which this gas is used. Now, you probably would find it in the larger industrial consumers that there will be some one especially delegated to keep the appliances in good adjustment practically every day. In such a case the appliance should be getting the maximum efficiency out of the gas regardless of the variations in quality which might take place from day to day or from season to season, because there is some one there to adjust the appliance. In such a case the reduction in heating value in most cases would be

accompanied by an almost proportionate increase in the consumption of gas. That is, for the industrial user. In cases, however, where that was not so, where the appliance was not carefully adjusted from time to time, the greater uniformity due to the fact that a heating value standard was in operation and due to the fact that a lower heating value standard was in operation when comparable with the average heating value of the standard under the 22 candle power, there would be not a proportionate increase by any means in the quantity of gas required. That is in what I might say the low temperature operations.

"In the high temperature operations such as heat treating of steel, there will be assuming that the furnaces used the gas and air without pre-heating, there will be a slight improvement in efficiency even though the furnace is in good adjustment, due to the fact that there is a slight in- [fol. 2489] crease in flame temperature. It will not be large. There will be a small increase because there the difference between the heat of the flame and the heat of the object to be heated is comparatively small, and any increase in the flame temperature will give rise to an increase in efficiency. In your low temperature operations such as cooking, that is not an important factor.

"There is a third factor which is also of importance in connection with this, that in certain industrial operations where there is a burner whose position can be altered with respect to the product to be heated, that with the lower B. T. U. gas there is a shortening of the flame, and it is possible then to raise the burner or adjust the burner nearer to the product to be heated, with a consequent increase in efficiency. That is to say, the point of maximum efficiency of a burner is the point closest to the object to be heated at which perfect combustion will take place. When you get closer and incomplete combustion begins, then there is a decrease in efficiency, and as you go farther away there is also a decrease in efficiency. So that by bringing the burner, particularly in these industrial operations, closer to the work, it is possible in many cases to get an increased efficiency, but that taking generally the decrease in heating value is likely to be felt by the industrial users in their consumption of gas far more than with the domestic users."

Distribution

In the course of distribution, photometric tests for candle power of gas manufactured and distributed in the city of New York are made at stations established by the city at various points, approximately a mile from the place of manufacture.

The candle power of the gas manufactured to comply with the 22 candle power requirement is dependent "upon the possible losses through the line between the point of manufacture and the testing point." As further stated by Mr. Merrifield, "in warm weather it is not as necessary to produce as high a candle power at the plant as it is in cold weather, because the losses in the line are not as great" (p. 243).

Preliminarily, Mr. Merrifield had testified that " the illuminants in the gas are what are known as condensible vapors, and drop out in the system for various causes—friction on the line, drop in temperature and absorption by water in the line. * * * When we get down to winter weather, where we have atmospheric temperatures around the freezing point, or below, the loss in illuminants due to condensation of condensible vapors is much greater" than when temperature is fairly constant around 65 to 70 degrees (p. 242). So that 22 candle power gas might mean anything from 12 to 20 candle power at various points in the district" (p. 242½).

With respect to Mr. Merrifield's personal experience, he stated that he had produced 26 candle power at the plant which tested the same at the testing station as gas which he had produced of 22½ candle power (p. 243).

[fol. 2490] In answer to the question whether between the testing station and the point of consumption there might be greater or less variation than occurred between the place of manufacture and the testing station, Mr. Merrifield replied:

"It depends entirely upon conditions. It may be that in a scientifically designed system of distribution that the losses in the line might be directly proportional to the length of the line. Of course, it is all a question, really, of the amount of friction that the gas is subjected to in its passage, and the temperature conditions that are met with,"

adding that the real factor being temperature, it could not be anticipated and a remedy adopted which would necessarily mean a complete improvement in conditions at the terminus (pp. 244-246).

"A lowering of temperature has the effect of liquefying certain condensible vapors which are rich in illuminants. * * * They are collected from the system and form in a liquid (p. 246). * * * They are collected in devices known as drip pots, which are really wells installed below the level of the main installation, so that the forces of gravity tend to draw the liquefied deposit in the main in service into those receptacles (p. 247). * * * The removal of this liquid * * * is necessary so that the free passage of the gas will not be interfered with. If these liquids were left in the system, it would be possible to pick them up again by producing a leaner gas," or they might be picked up if the temperature radically increased (p. 248).

Mr. Merrifield testified that it was difficult to state, other than in a general way, what might be the variation in candle power as delivered to the consumer, assuming that 22 candle power is delivered to the testing station; that his observation in his own home has shown that gas testing at 21 or 22 candle power according to the city's record reached his home, about two miles distant, with a candle power of not more than 14 or 15 (pp. 248, 249).

Mr. Phillips testified (pp. 490-A, 491-A):

"Where gas is being produced under, say a 22 candle power standard or thereabouts, it would be impossible to say definitely what would be the variation without testing in the particular location. But in a general way I should say that to maintain that candle power there would necessarily be a variation of at least 40 or 50 B. T. U. in an extended district throughout the different parts of the year in order to maintain that candle power. In a concentrated district * * * that same ratio might not hold good, but I am speaking of the average condition. Probably 40 or 50 B. T. U. variation between summer and winter."

The problem of distribution has obvious relation to gas quality, for, as Mr. Phillips testified, "with a lower heat-

ing value of gas * * * you permit a narrower variation in the quality of gas" (p. 511). And again he said: "The variation under a candle power standard * * * will be much greater than under a B. T. U. standard" (p. 488). [fol. 2491] As stated by Mr. Jenkins (p. 372), under conditions which cause variation in gas quality "there would be more fluctuation in the curve of the candle power than there would be in the curve of the B. T. U."

It would serve no useful purpose to set forth in further detail the evidence with respect to the degree of variation in gas manufactured to a candle power standard,—gas requiring the use of enriching oils to produce the constituents known as illuminants,—or in gas manufactured to be of a fixed B. T. U. content; though pause may be made to refer to the statement of Mr. Jenkins that "the consumer eventually has to pay the total cost of making gas. If he does not get delivered to his appliances the full value of the gas as made at the works, and tested at the works perhaps, it seems to me that that is not a good quality of gas or a good method of testing to be used for the benefit of the consumer" (p. 331).

He further stated in effect that gas should be of such quality that the consumer gets the greatest amount of useful heat at the lowest cost, that the dilutents or inert gases should be kept as low as commercially practicable, and that the gas should be so made as to insure the delivery to all consumers under all conditions of distance and weather, of the largest possible amount of heat units produced in the manufacture of the gas (p. 369).

It was his belief that under the use of the standard of candle power there has been a wide fluctuation, according to the weather and other circumstances, in the calorific value of the gas, and he further believed that there will be less fluctuation in gas measured for its B. T. U. value than in the same gas measured at the same time for its candle power value under reasonable changes in conditions, "like temperature and pressure and things of that sort" (p. 370).

The fact of variation in the course of distribution is of primary importance when it is realized that uniformity in quality is the first element of efficient gas service.

Uniformity of gas quality means substantial uniformity in its calorific quality because of its use for its heating value (Jenkins, pp. 368, 369).

"If," Mr. Jenkins testified further, "in order to retain a uniform candle power the calorific value varies, the actual service rendered the majority of consumers will be impaired" (p. 371).

Mr. Phillips testified that "since regularity is the most desirable quality of service and determines to a large extent the efficiency of service, the fact of a reduction which would tend to reduce the fluctuations in quality would have a very desirable effect" (p. 496).

"With a more uniform standard the industrial user would also obtain better service in that he would not find it necessary to make so many adjustments" (Phillips, p. 496).

In determining the point at which substantial uniformity of quality may be maintained there is to be considered, in connection with the testimony that the lowering of the [fol. 2492] B. T. U. content operates to decrease the extent of the variation in quality, that there is an approximate point where variation does not occur. According to Mr. Merrifield, blue water gas of 300 B. T. U. content is not apt to contain any of the constituents which may drop from the system in the course of distribution (p. 262), though carbureted water gas of 600 B. T. U. content does contain it. It seems that in reality it is not possible to supply any quality of gas without some variation at times; but the constancy of gas of 500 B. T. U. or lower can be better maintained than gas manufactured on the carbureted water gas plan of a higher B. T. U. content (p. 263), and while Mr. Merrifield does not say that 550 B. T. U. gas is the ideal point his testimony is that it is easier to maintain constancy in gas of less than 550 B. T. U. than in gas of higher heating value (p. 264).

The desirability of a uniform quality of gas and the advantages to be derived therefrom are rather anticipatory, but the facts serve nevertheless to emphasize the importance of the problems of distribution in their relation to the subject of gas standards. Indeed, so entwined are the facts pertinent to this subject that it is difficult in the extreme to discuss them under various topics without repeti-

tion or anticipation of matter more properly to be weighed under another subject head.

Service Requirements Generally

Upon the subject of the requirements of gas service, it is stated in Circular 32 that there are three general requirements, as follows (Exhibit No. 5, p. 7):

"First, that gas of satisfactory and reasonably uniform quality and pressure be available to the consumers at all times and that such gas be correctly metered; second, that the price of gas be reasonable, though adequate to permit the maintenance of the company's equipment at a high state of efficiency and the earning of a fair return on the investment; and, third that all portions of the municipality or district which are sufficiently populous to warrant it be supplied with gas.

"The first of these general requirements, defines 'Standards for Gas Service,' which comprise the conditions which must be defined in respect to heating value, purity, pressure, and measurement of gas and the relation of the gas company to its customers."

Circular 32 proceeds with this caution, however (p. 7):

"In the formulation of service rules and in the enforcement of such requirements it should always be borne in mind that these regulations are really a technical specification covering the quality of the commodity and the service to be supplied under a franchise which is in effect a contract with the people. These specifications should not be looked upon as police regulations of the State or the city, but rather as a part of a business arrangement between purveyor and users of gas; and if properly drawn they protect the interests of both parties to the contract."

[fol. 2493] Pressure as Affecting Service

"Pressure is one of the most important factors in gas service" (Phillips p. 626).

Mr. Merrifield said (p. 272):

"A certain pressure is necessary for adequate service; that is, the gas must be delivered at a pressure which will

insure the delivery of gas in proper quantities for efficient service. * * * The Public Service Commission has certain pressure regulations governing that very subject, and the regulations in the Public Service Commission's old First District, which have not been modified or changed by the present Commission, provide for a minimum of two inches water column and a maximum of six inches water column, with a certain requirement as to variations between the minimum and maximum."

Mr. Jenkins pointed out that good service consists "of uniform quality of gas supplied under uniform pressure and through efficient appliances that were kept properly adjusted" (p. 367). But there are no pressure requirements in Massachusetts (p. 386).

Mr. Phillips referred to certain recommendations as to pressure requirements made by the Bureau of Standards in its Circular 32 and quoted from page 74 (p. 632), to which reference can be made if this subject is of importance in this inquiry.

Tests

According to Mr. Merrifield, "the statute requires that gas, in order to comply with the 22 candle power standard, must be tested under conditions which permit the measurement of the illuminating value of the gas against that of candles which weigh six to the pound and burn at the rate of 120 grains of sperm per hour, the gas being passed through an open flame burner at the rate of five cubic feet per hour" (p. 255). The instrument employed in this test is the photometer, in the use of which the witness had experience over a period of nine or ten years (p. 256) and with respect to which he stated, "I haven't hardihood to give an efficiency rating to any photometer I have ever worked on" (p. 258). The witness continued: "I have tested gas for illuminating value and within a period of an hour have got differences of a candle and a half on the same gas by using different candles and these candles taken from the same box. * * * Another factor * * * is the personal equation. The results secured, the ratings secured from observations on a photometer bar, are taken from observations made by the observer, whose vision con-

trols his determination * * * I do not know any other person who has the same powers of vision that I have" (pp. 258, 259).

The calorimeter is the instrument for testing the heat value of gas (p. 265), and is more dependable (p. 259).

"The candle power test is a much cruder test than the calorimeter test" (p. 507).

[fol. 2494] Stability of Product

The unquestioned fact that "candle power" gas is of variable quality is indicated in the testimony of Mr. Merrified that in practice, "22 candle power gas might mean anything from 12 to 20 candle power at various points in the district" (p. 242½).

Upon this point, Mr. Jenkins explained (p. 348):

"The idea, as I understand it, in the candle power days, of having a quarter-mile limitation for a testing station was to allow the gas to become settled. That is, to have dropped what it might drop on the way up, or rather not to give a fictitious value to the gas the consumer was getting by testing at the works, as experience has shown that it did deteriorate after it left the works."

Whether greater or less variation occurs between the testing station and consumer than between the place of manufacture and the testing station "depends entirely on conditions. * * * It is all a question really of the amount of friction that the gas is subject to in its passage, and the temperature conditions that are met with along" the line (Merrifield, p. 244).

Anticipating the more detailed discussion of the evidence to be later developed, it is now to be observed that "with a lower heating value of gas * * * you permit a narrower variation of the quality of gas" (Phillips, p. 511). Neither is that disputed; nor the further fact that uniformity of quality is the first element of good service.

Consumers' Service Complaints

As the purposes for which gas is used serve to indicate the quality which should be produced, so also is experience

an important factor, even the experience of those not versed in the industry, but who utilize the service in one way or another. Evidence from such a source, however, is more apt to be from those who complain of the service, with or without just cause, and would be biased or otherwise valueless. However, there is available the experience of those who have dealt with the complaints of consumers.

Mr. Phillips said (p. 611):

"I have investigated the causes of complaints in a considerable number of cities at the request of the Public Service Commissions while I was with the Bureau of Standards. In no case have I found that low heating value was the just cause." He "found that complaints have been due to various causes, among them, wide variations in heating value because appliances become out of adjustment. A very large proportion of them have been due to pressure (p. 612). * * * In some cases they have been due to inadequate local piping * * * stoppages from corrosion, but in the main I should say that pressure conditions were the most common cause of complaint" (p. 613).

According to Mr. Merrifield, 90 per cent of the complaints of poor quality are due to defects in house piping (p. 200).

[fol. 2495] Colonel Betts referred to a number of general complaints which were made in Trenton about 1915. He said that they were from parts of the city where the houses were quite old and the pipes were quite small and clogged with accumulations of rust and other things. "The examinations and inspection of each complaint developed the fact that in a great many cases service pipes must be renewed (pp. 964, 965). * * * This examination, however, did develop a great many cases where appliances were not properly adjusted and where flat flame burners were being used where they expected to get some good amount of illumination" (p. 965). But a better feeling resulted through discovery and correction of the real causes of complaint.

A great many complaints came to the New Jersey Board as a result of the change in standard—the change in 1920 (p. 985). Colonel Betts having the view that, irrespective of what engineers and those informed upon the subject had to say about the composition of the gas, the heating value

of various kinds of gas, etc., it would be well to determine what the customers themselves had to say in a comparison of the conditions existing before the change with those which occurred after the standard had been reduced (p. 986). He accordingly obtained some data. The cities of Newark and Jersey City advertised for complaints, (p. 987) after the 525 B. T. U. standard was fixed. The Commission employed a special man in Jersey to be at the place where people paid their bills to the Public Service Gas Company (p. 987) but after maintaining him there for two or three weeks without his getting any complaints, it was decided he had been there long enough (p. 990). The man referred to was employed in June, 1921, that is, the spring of the year following the change of standards (p. 992).

As a result of the failure of the Public Service Gas Company to make adjustments in the appliances of its customers, there were a number of informal complaints to the New Jersey Board (p. 994). Representatives of the city and of the Commission made a joint inspection and all the complaints were cleared up except two, one of which was attributable to a poor gas engine installed by a consumer and could not be remedied (p. 996). The other was the case of a manufacturer of glass eyes, who insisted that with the lower B. T. U. standard he produced a cloudy eye, while a competitor of his, who used a higher calorific value gas, produced a clearer grade of glass eyes (p. 997). Low pressure areas were straightened out as a result of the investigation (p. 998).

Colonel Betts then referred to a memorandum of the complaints given to the gas inspector of Newark from August, 1919, to August, 1921, to show how the number increased at the time of the change of standard and decreased after conditions were remedied. These complaints were classified under two general headings, poor gas or insufficient gas (p. 999).

[fol. 2496] As to complaints in Providence, R. I., Mr. Freeman testified:

"We do not have any more complaints on 510 B. T. U. gas than we formerly did on 580 B. T. U. gas" (pp. 834, 835).

"All the complaints that could be attributed to the heating value of gas have been those of open flame burners" (p. 881).

The complaints on open flame burners were the main source of trouble incident to the change of standard in Providence (p. 878). With 580 B. T. U. gas, the people had been getting somewhere around 16 candle power and with 510 B. T. U. it is perhaps 9 or 10 candle power. "Naturally, people that had open flames made a noise about it, and we recommended to those people putting on Welsbach burners, and today we are using Welsbach burners in place of those open flames and getting remarkably good lighting with it" (Freeman, p. 879).

A number of the complaints by persons using open flame burners were attributed by the customers to what they called "poor gas"; but the only remedy for open flame burners, said Mr. Freeman, is to do the same thing the electric light companies did in changing from a carbon lamp to a Mazda lamp, that is, change from an open flame burner to a Welsbach mantle light (p. 885).

Mr. Freeman further testified that he had made it a practice to get acquainted with the company's customers (p. 881), and he instanced the complaint of Mr. C. W. Adams, who stated he could not obtain as good heating result on the new standard as on the old. Upon investigation, Mr. Adams said he had not had any trouble at all at his house, but that he had told Mr. Freeman that he did not like 510 B. T. U. gas as well as 580 (p. 882). In fact the trouble with Mr. Adams' range was a weak flame, which was adjusted so as to boil a quart of water in five minutes on the back burner and in four minutes on the front burner.

Mr. Adams finally said he was "very much satisfied" (p. 883). This is just an instance of some of the complaints.

Other complaints arise sometimes due to insufficient gas supply—because of trouble in the supply pipe, or because the burners themselves require a complete cleaning out. "Occasionally we find a cock has got grease in it and the grease has got into the cock orifice and plugged it up so the gas cannot get through" (Freeman, p. 884).

In December, 1920, the Providence Gas Company circularized its 68,000 customers, asking them for complaints. Those resulting were about 3 per cent of the total (p. 890).

"Of the complaints of poor gas service reaching the department," in Massachusetts, Mr. Jenkins said, "examination showed no instance in which the dissatisfaction of the consumer was due to the change in standards or as to the value of the standard" (pp. 309, 310, also pp. 308-316).

The pertinence of the subject of complaints in a discussion of gas standards is found in the fact stated by Mr. [fol. 2497] Phillips that "the complaints that are received under a lower heating value gas are fewer than under higher candle power gas" (p. 702).

Heating Standards Fixed by State Commissions as of April, 1921

State	Previous minimum	Standard monthly average	Date effective	Minimum	Present maximum	Standard monthly average	Date effective
Arizona	.....	.....	.....	550	.....	600	5/ 1/15
California	.....	.....	.....	540	600	570 [1]	9/ 1/19
San Francisco	.....	.....	.....	.....	.....	550	9/ 1/21
San Diego	.....	.....	.....	.....	.....	540 [1]	2/ 1921
Colorado	.....	.....	.....	525	.....	575	1/ 1/17
Connecticut	530	575	8/ 1/15	528	.....	... [1]	10/ 1/18
Dist. of Columbia	.....	.....	.....	550	.....	600	9/ 1/14
Georgia—							
Atlanta Augusta Savannah	.....	.....	.....	550	.....	575 [1]	1918
Illinois	.....	Low pressure gas		530	.....	565	11/ 1/14
		High pressure gas		520	.....	530	11/ 1/14
Indiana	550	600	7/ 1915	540	600	570 [1]	5/ 1/20
Vincennes	.....	550	9/24/18	500	.....	525	9/ 1/20

[1] Standards adopted since Jan. 1, 1918.

Heating Standard—continued.

State	Previous minimum	Standard monthly average	Date effective	Minimum	Present maximum	Standard monthly average	Date effective
Maine	.....	.....	.....	495	555	525	7/ 1/21
Maryland	.....	.....	.....	559	.....	600	7/ 1/15
Baltimore	.....	.....	.....	490	520	500 [1]	10/ 1/20
Massachusetts	16 candle power 1892			528	.....	... [1]	1/ 1/18
Michigan (Certain cities)	.....	.....	.....	510	565 (weekly av.)	530 [1]	1921
Missouri	.....	.....	.....	520	.....	570	10/ 1/15
Cape Girardeau	.....	.....	.....	(5% from av.)		450 [1]	12/18/20
Montana	450	475	4/30/14	445	505	475 [1]	1/ 1/21
Nevada	.....	.....	.....	500	.....	550	9/ 3/11
New Hampshire	550	600	2/ 1/11	550	.....	565	4/ 1/17
New Jersey	550	600	11/15/11	525	.....	... [1]	11/ 1/20
New York Second District—16 c. p. Coal Gas.... 18 c. p. Mixed Gas.. 20 c. p. Water Gas..			6/27/07	555 (3 day av.)	.....	585	1/ 1/17
North Carolina	.....	.....	.....	510	570	540 [1]	1/ 1/21

North Dakota....	.....	.....	.....	500	550	525[1]	1/ 1/21
Oregon	.....	.....	Oil Gas	550	.....	570	7/ 1/14
			Other Gas	550	.....	600	
Pennsylvania[2]	520	570	4 9 14	500	.....	520[1]	12 13 20
Rhode Island (Providence only)	.....	580	.....	.....	.....	510[1]	5/19/20
Washington	.....	.....	.....	550	.....	600	6/15/12
Seattle	.....	.....	.....	500	530	...[1]	1 1 21
Spokane	.....	.....	.....	520	560	...[1]	1 1 21
Tacoma	.....	.....	.....	450	475	...[1]	1/ 1/21
Wisconsin	550	600	7/24/08	(4% below av.)	(5% above av.)	520[1]	9/ 8/20
Canada	.....	520	7/ 8 15	.....	.....	450[1]	5 24 19

[1] Standards adopted since Jan. 1, 1918.
[2] By-Product Coke Oven Gas 20 B. T. U. lower.

But it is desired to invite particular attention to the following places where B. T. U. standards have been fixed, though they will be discussed hereafter in some detail.

New York:

While case No. 1502, Public Service Commission, Second District, entitled "In the matter of a conference of representatives of gas companies on the subject of standards for the measurement of the value of gas," was not admitted in evidence in this case, the order entered therein, dated October 11, 1916, is a matter of public record. It fixed the standard of gas in the Second District at 585 B. T. U., which standard has been effective since January 1, [fol. 2498] 1917, when it superseded the standards previously in force, namely, 16 candle power for coal gas, 18 candle power for mixed gas, and 20 candle power for carbureted water gas (Cheney, p. 451).

Through the record of the proceedings in case No. 2235, Public Service Commission, First District, "In the Matter of the Hearing on the Motion of the Commission as to the Standards for Measurement of the Quality and Power of Gas Manufactured, Distributed or sold by Gas Corporations within the First District, and the Rates or Charges for such Gas Service based upon such Standards," was denied admission in evidence, the order entered October 13, 1917, was received. Hearings had been held in September, 1917. The order gave to the companies the option of adopting a standard of gas of 650 B. T. U., which was said to represent as nearly as could then be determined the thermal content of 22 candle power gas, and it was further ordered that, if the thermal content of the gas distributed was below the standard of 650 B. T. U. a discount should be allowed upon bills to consumers equivalent to the reduction in the thermal content from the standard fixed by the order.

The order in case No. 2320, Brooklyn Borough Gas Company, referred to above, was entered on July 2, 1920. Among other things, it directed that the company be "authorized and required not later than October 1, 1920, to change its standard from its present 22 candle power standard to the British Thermal Unit (B. T. U.) standard, the number of heating units to be furnished to be not less than

525 B. T. U. per cubic foot." This order was stated to be made upon the express condition that the Company would make such reduction in the maximum rate "as shall be warranted by the economies effected by such change of standard."

Case No. 108-A, entitled "In the Matter of the Kings County Lighting Company," involved the same subject of inquiry as the present case, being restricted, however, to the Company named. The record in that case was received in evidence here. It appears that an order was entered therein on March 23, 1922 (amended April 25, 1922), fixing the standard of 525 B. T. U. for gas manufactured and sold by Kings County Lighting Company, "in lieu of a 22 candle power standard."

The present standards for gas in New York are thus found to be 585 B. T. U. in the former Second District of the Public Service Commission, 525 B. T. U. in the territories served by the Brooklyn Borough Gas Company, and the Kings County Lighting Company, and 22 candle power elsewhere in the city of New York.

Massachusetts:

The Commission was materially aided in its inquiry by the availability of Mr. Charles D. Jenkins, who testified as to the investigation and experience in Massachusetts. He was in charge of the investigation conducted there in 1916, as a result of which a 528 B. T. U. standard was fixed, be-[fol. 2499] coming effective January 1, 1918 (pp. 306, 387), and supplanting the standard of 16 candle power which had been the requirement during a great many years (p. 351).

New Jersey:

Colonel Betts testified fully as to the standard adopted in 1920 by the New Jersey Board of Public Utility Commissioners of 525 B. T. U., with a minimum of 515 B. T. U., the previous standard having been "600 B. T. U., with a minimum which shall never fall below 550 B. T. U.," and which had been fixed by order of October 17, 1911, in imitation of the action taken by the Wisconsin Public Service Commission.

Providence, R. I.:

It was through the testimony of Mr. Freeman that information as to the gas industry in Providence was developed. The company there produces gas to meet a requirement of 540 B. T. U., which has been the standard since May 17, 1920. Previous to that date the standard was 580 B. T. U.

Philadelphia, Penna.:

Mr. Klump in case No. 108-A testified in some detail as to conditions prevailing in Philadelphia. There is also in evidence the report of the Gas Commission to the Mayor and Council of the City of Philadelphia, dated May, 1921 (Exhibit No. 8, p. 7), wherein it was stated:

"If a satisfactory readjustment with the United Gas Improvement Company can be obtained, the Commission recommends the following program in order to modernize the present gas plant and to provide the best and cheapest gas service for the people of Philadelphia:

"(1) The continuation of 530 B. T. U. heating value as the standard of gas quality, with power conferred upon a regulatory body to change such standard if conditions in the future so require. The Commission is of the opinion that such a standard will provide a better and less expensive gas per heat unit than that required by the twenty-two candle power standard, that the vast majority of gas consumers will be benefited thereby and that those disadvantageously affected consume not more than five per cent of the entire amount of gas supplied," etc.

England:

It seems that under the Gas Regulation Act of 1920, "each undertaking is left free to choose and declare the heating value of the gas which it intends to supply. Under this Act calorific standards ranging from 400 B. T. U. to 550 B. T. U. have been declared, and gas of all heating values between these limits, and in a few cases even below 400 B. T. U., is today being furnished alike by municipal corporations and private companies" (Exhibit No. 7, p. 1).

[fol. 2500] Experience under Heating Standards

It seemed highly important to procure the testimony of witnesses qualified to inform upon standards in force elsewhere and the results experienced. Mr. Phillips testified in detail as to the practice in England, and Exhibit No. 7 is his report to the American Gas Association in 1921 upon the subject of "English calorific standards and their governmental regulation." The connection of Mr. Jenkins with the investigation and experience in Massachusetts, of Mr. Freeman with the Providence Gas Company and of Colonel Betts with the inquiries and results in New Jersey has been mentioned above. Their testimony and that of others will now be briefly referred to, though certain phases of their experiences not already mentioned will be reserved for discussion hereafter under specific topics. Advantage will be taken of the opportunity to incorporate parts of their testimony having general bearing and which may or may not have been referred to elsewhere.

Massachusetts Investigation:

Mr. Jenkins testified:

"The Legislature passed an Act by which the Board of Gas and Electric Light Commissioners in those days was empowered to determine the number of B. T. U.'s which should be required" (p. 305), and the investigation covered a period of eighteen months (p. 321).

"Nineteen companies were specified and designated as being subject to the investigation" (p. 305), "which was intended to be on a large practical scale, with the companies co-operating to find the best or most desirable quality of gas to make" (p. 306).

To witness' mind the candle power standard fixed by the Massachusetts statute was "a rather crude method of valuing gas," (p. 330) and he was anxious for the Board to test by a rational method, that is, for heat units rather than candle power (p. 329).

"The accuracy of the method of testing candle power (by sperm candles) was not as fine as it might have been, as some other methods of valuing gas might be" (p. 331).

"As I see it, the consumer eventually has to pay the total cost of making gas. If he does not get delivered to his appliances the full value of the gas as made at the works, and tested at the works perhaps, it seems to me that that is not a good quality of gas or a good method of testing to be used for the benefit of the consumer" (p. 331).

Though one test of calorific variation showed a change of 9 B. T. U. between the works and the testing station, witness' recollection of later work was that a figure between 4 and 5 B. T. U.'s of variation was the "one to be aimed at" as being a possible "minimum loss" (pp. 347, 348).

"Experiments were made during the period of 16 candle power gas to determine what was its actual heating con- [fol. 2501] tent (p. 354), but "the B. T. U.'s of the 16 candle power gas would vary according to the quality of gas" (p. 355).

"If all the gases tested had been exactly 16 candle power, the equivalent in calorific value would have been 560.9 B. T. U." (p. 356).

"What we tried to do (in the course of the investigation) was to have the gas companies make gas to a calorific value standard, that is, make a gas whose value would be determined by a calorific test, test for B. T. U.'s; and that may or may not be the same character of gas that they would make if they were making it to a candle power standard" (p. 358).

In furnishing a heating power gas, the primary purpose is to give a heating content rather than an illuminating content (p. 360).

"What we were aiming at was to find what quality of gas was going to give the most efficient service to the consumer, and it does not follow in my mind that a high B. T. U. gas is the one that the consumer wants" (p. 360).

"It was desirable to get to the consumer the greatest amount of energy for his dollar" (p. 361).

Referring to his report to the Massachusetts Board, Mr. Jenkins called attention to his note on page 21, "which I wanted to impress on the various companies, that good service consisted of uniform quality of gas supplied under uniform pressure and through efficient appliances that were kept properly adjusted. That seemed to be, from my ex-

perience during the investigation, the thing to be aimed at" (pp. 367, 368).

Certainly the greatest percentage of gas used is for its heating value (pp. 368, 369).

"The gas should be of such quality that the consumer gets the greatest amount of useful, available heat at the least cost." * * * "This means that the dilutents or inert gases should be kept as low as commercially practical, and that the gas should be so made as to insure the delivery to all consumers, under all conditions of distance and weather, of the largest possible amounts of heat units produced in the manufacture of the gas" (p. 369).

"If you measure the gas for its B. T. U. value, there will be less fluctuation than there will be of the same gas measured at the same time for its candle power value, under reasonable, of course, changes of conditions, like temperature and pressure and things of that sort. That is, if you make two tests at the same time, candle power and B. T. U., and the conditions do change so that there is a variation in the candle power, there will be less change in the B. T. U.'s (pp. 370, 371).

"Even under the stress of abnormal times the calorific value has remained exceedingly constant, while the candle power has followed the usual fluctuation experienced in changing weather. Uniformity of calorific value is to be desired, for the larger proportion of gas is used as a source of heat, and a uniform quality of gas is the first element of good service to the consumer. If, in order to retain a [fol. 2502] uniform candle power, the calorific value varies, the actual service rendered the majority of consumers will be impaired" (p. 371).

"My experience has been that the candle power was, with very much difficulty, kept uniform during the year" (p. 374).

Mr. Jenkins' report of the investigation was presented and marked Exhibit No. 1 for identification, but was not received in evidence (p. 319). With respect to it, he said: "I do not know that it is necessary for the record, but it might be interesting for the engineering department to study."

With respect to the Massachusetts investigation Mr. Cheney said (p. 459):

"The special significance of the results in Massachusetts to me is because the operations ran parallel as to time and contiguous as to location between the companies which did change and those which did not, and there were enough of both and they were sufficiently interspersed and intermingled, weather conditions, and those other factors which are ordinarily apt to vitiate the significance of data, did not affect both groups equally and simultaneously. So that having all other conditions the same, if any effect there was due to the change in standards it should have been disclosed by the actual results."

Providence Standard:

Mr. Freeman, Engineer of the Providence Gas Company, of Providence, Rhode Island, had had intimate experience in connection with the service of gas produced in Providence under a B. T. U. standard. He testified that when he became Engineer of the Providence Gas Company in 1919 the standard was 580 B. T. U. monthly average, but that since May 17, 1920, the standard has been 540 B. T. U. monthly average (p. 828).

In connection with the circumstances of the change in standard, he stated that about three weeks before the termination of his company's oil contract it was informed that the Gulf Refining Company would be unable to renew, that accordingly the market was combed for an oil supply and 1,200,000 gallons were finally located at the price of 15½ cents a gallon, which meant that the price of gas would have to be substantially increased and that in view of the limited supply there would have to be a reduction in the heat value of the gas (pp. 829, 830).

The matter was laid before the State Commission and hearings were held. In view of the emergency, the Commission permitted the putting into effect of the new standard. Further hearings were held in June or July following (p. 830) and the Commission authorized the permanent continuance of the new standard. This decision was appealed, and was affirmed by the State Supreme Court about November, 1921 (p. 831).

At the present time the Providence Gas Company is sending out 50 per cent coal gas and 50 per cent water gas (p. 880).

[fol. 2503] The change from 580 to 510 B. T. U. was made in practically a week's time (p. 887).

A man of intelligence could be instructed in a day's time to make proper adjustments from 650 to 550 B. T. U. (p. 876).

The Providence gas on a 510 B. T. U. standard is so hot that they are using steel pilot tubes in the Welsbach mantle, because experience showed that brass pilot tubes became clogged through zinc oxide (p. 887).

Previous to witness going with the Providence Gas Company a survey of open flame burners had been made, and witness' information is that perhaps 5 per cent of the customers there used them (p. 891).

The witness emphatically feels "that the customer is getting more on a 510 B. T. U. gas than they would be on a 580 B. T. U. gas." The witness' opinion would not be affected by the production of 10 per cent coal gas and 90 per cent carbureted water gas (p. 898).

The heat content of the coal gas produced, without enrichment, is perhaps around 570 B. T. U., and the water gas, without enrichment, between 295 and 300 B. T. U. per cubic foot. "Theoretically water gas is about 315 to 316, but you cannot obtain that in good practice" (p. 899).

Sometimes witness' company does not use any oil in the water gas, the supply being enriched with the coal gas (p. 900).

Industrial consumers are taken care of by the same men who take care of the household consumers, but they use a better grade man on industrial work.

The peak load of the day varies at different times of the year, but it runs from about 5:30 to 7:15 p. m. (p. 902).

At the time of the change of standard, some of the consumers went over to the use of electricity for lighting purposes (p. 904).

The witness has made 22 candle power gas in New York city (p. 905).

There is no trouble with the 510 B. T. U. gas with reference to the condensibility of hydrocarbons in the mains. "Our mains are dry now, where formerly they were good

and wet." "We are pumping less drippage." "The drippings out of the holder would be less on 510 than on 580" (p. 907).

"There is no strict relation between candle power and heat value. There is a wide range" (p. 913). "My judgment would be, it would be from say 630 up as high as 680 B. T. U.'s"—practically a 50 point variation. The variation would "probably be a whole lot more than that on consumers' premises because if you are running on a 22 candle power gas you drop a lot of hydrocarbons in your mains and then you come along with the gas and pick up those hydrocarbons. The chances are you might chase that B. T. U. on your consumer's premises at times up above 700, and at other times it may be below 600 when the condensation is dropping out" (p. 914).

[fol. 2504] New Jersey Inquiries:

As stated above, Col. Philander Betts, Chief Engineer and Chief Inspector of the Public Utilities Commission of the State of New Jersey, was called as a witness in behalf of the Commission to testify as to what had been the experience in New Jersey under the B. T. U. standard there in effect.

He testified that the New Jersey Act of 1911 gave the Commission "the power to fix standards for service" (p. 938). Thereafter a hearing was had on the matter of gas standards and the witness drafted a set of rules which followed almost exactly the Wisconsin rules (Id.), and a 600 B. T. U. standard was fixed with a minimum, below which the gas should not fall, of 550 B. T. U. (p. 940).

During the war the companies were allowed to drop the standards of gas down to a point "which would be considered by them to be as satisfactory as possible and that would allow them to remove some of the toluol from the gas;" but all except two of the companies "restored the standard within a couple of months' time." The Public Service Gas Company, however, did not do so (p. 941).

"Very close to three-fourths of the gas produced in the State is furnished by the Public Utilities Corporation," and, due to the large amount of gas that is purchased from the Seaboard By-Products Company about 50 per cent of the gas distributed by it is coal gas (p. 954), though the

proportion varies from season to season somewhat. The gas so furnished by the Seaboard By-Products Company is manufactured by the coke oven process. The proportion of water gas furnished sometimes rises as high as 60 per cent of the total, and this is at the time of the greatest demand (p. 955).

At the time of the increase in the price of gas oil in 1919 and 1920, investigations were held throughout the country (p. 942) and in New Jersey there was a hearing for the purpose of determining whether gas companies should be allowed to produce gas "under conditions which would call for less oil for enriching purposes" (p. 943).

It seems that this investigation resulted from a communication from the New Jersey Gas Association. At the time a number of the companies had asked for increased rates, and the hearing was held for the purpose of going entirely into the question of the standard (p. 957).

The Board concluded that the standard should be changed for the purpose of conserving oil and of reducing the cost of production (p. 958). There was then fixed an average standard of 525 B. T. U. (p. 959), with a minimum of 515 (p. 961).

"The thing that impressed itself upon us was the absolute necessity of a gradual change and the absolute necessity of a complete house-to-house canvass of all customers' premises, with a view to seeing that the appliances were adjusted properly" (pp. 963, 964).

[fol. 2505] In New Jersey, due to lack of labor during war time, many companies discontinued the work of free service on customers' premises, but the scheme of doing such work has again been established (p. 968).

Asked as to what provision was made by the Commission at the time of the order reducing the standard from 600 B. T. U. to 525 B. T. U. with respect to the manner of the reduction, the witness read from the third paragraph of the Board's decision dated August 3, 1920, as follows (pp. 970, 971):

"In putting the new standard into effect, it will be necessary to adjust many of the appliances now in use in the premises of the consumers * * * The change in standard should be gradual and should be made in what would approximate equal steps * * * The work of adjusting

appliances on consumers' premises is to be executed by the respective gas companies without expense to the consumers" (pp. 970, 971, 972).

One of the reasons why the change was made beginning in August was that "in cold weather the service pipes sometimes clog up, and we get those complaints, we get them at that time in the year" (p. 978).

The consumers don't know anything about it except that they have what they call "poor service, poor gas, no gas, no pressure; all sorts of ways of saying the same thing" (p. 979).

The customer does not complain about the "clogging up due to oil that has been dropped out of the gas at times of low temperature," (p. 979) "but we have found that to be one of the things which causes partial clogging up of service pipes" (p. 980).

In view of these conditions in cold weather, "we did not want to have complaints that might arise from this change in standard complicated or mixed up with complaints that might come from some other source" (p. 981).

Subsequent to the reduction in standard, Newark presented a petition, in which Jersey City joined later, asking that the standard be restored to 600 B. T. U. (p. 1007). Hearings were held and an order issued Nov. 29, 1921 (pp. 1008, 1009). In connection with the investigation, the Public Service Gas Company requested letters from various municipalities, and "they express without exception satisfaction with the standard as it now is. The only places where you find any discordant element at all is in two or three cases where the municipal authorities themselves had some complaints because the companies have not made extension to serve prospective new customers. I have been over all these letters and this is the only thing of the kind I can find in here" (pp. 1009, 1010).

These letters were filed as a part of the case in the New Jersey inquiry and as showing why there should not be any further change in the standard. They were all written between August 20 and September 9, 1921 (p. 1010). They were practically all from municipal authorities, and the [fol. 2506] witness quoted from some of them (p. 1011).

In conclusion Colonel Betts testified:

"The gas having higher calorific value under ordinary methods of getting it is a sooty gas compared with the gas of a lower heating value. I think that is one of the most important reasons why the change should be made.

"But there is another thing. For years I have been of the opinion * * * that some of these days we would have gas somewhere nearer 450 than 600 or 650 or 670 that we have been having in almost all cities * * * The Board of Trade in England sets a standard to fit particular conditions (p. 1037) * * * with the idea of getting the greatest economic benefit * * *

"Now, it is on that account that I think that we have got to come to what will be called economic standards * * * The best economic balance that we can get in a combined mixed gas plant would be nearer 450 than it would be something considerable higher. If that is so, then the lowest cost would come from a lower heating value gas" (p. 1038).

Brooklyn Borough Gas Company:

The change of standard "was effected by an order of the Public Service Commission which modified the standard and fixed the standard of 528 B. T. U.'s per cubic foot for that company. The company organized a force of men for the purpose of making wholesale readjustment of appliances to meet the leaner gas and within a space of four weeks—at the time that the change was made there were a number of places that had not been covered, and within a space of four weeks, practically all adjustments had been made, and I say that because, after four weeks there was an entire cessation of complaints to the Commission upon poor gas supply from that territory" (Merrifield, p. 278).

The Brooklyn Borough Gas Company had about 20,000 consumers (p. 281).

New York and Richmond Gas Company:

It seems that for a period of some two years the New York and Richmond Gas Company has been furnishing gas of varying B. T. U. content, averaging about 550 or 540, without authorization, and instead of 22 candle power gas (Merrifield, p. 273).

This company serves the territory in which is located the home of Mr. Merrifield, who testified with respect to it that "for practical purposes in my home I have not been able to detect any difference in the efficiency of that gas compared with the gas previously furnished by the company when it was complying with the 22 candle power standard" —during 1919 and prior thereto (p. 274).

Mr. Merrifield judged from the effect upon his appliances that the change from 22 candle power gas to that of a B. T. U. content was effected suddenly, and he said:

[fol. 2507] "The adjustment which had previously met the conditions of the gas supply was not proper for the newer gas, so I had to readjust my appliances" (p. 274).

In the instance of this company Mr. Merrifield further testified:

"I know that complaints from the Public Service Commission referred to the company caused the correction of the cause of the complaint" (p. 276).

New York, Public Service Commission, Second District:

It will be recalled that Mr. Cheney was with that Commission at the time of the change of standard to 585 B. T. U., and he said (p. 468):

"As to the service supplied after the change from the candle power to heating power standard I can say that as far as could be determined by me on tests which we made of the gas following up of complaints which came as to service, there were no complaints which could be attributed, which were at any rate justified by the change to a heat unit standard.

"It was rather common for complainants to say that the gas was poor. * * * Investigation of those complaints always developed that it was not because the gas itself was poor, or that it did not have enough heating quality, but that the pressure was poor, or the service was plugged up, or the appliances were out of adjustment, or perhaps dirty. * * * When corrected, the same gas that been complained of before was entirely satisfactory" (p. 474).

During the war, upon occasion, in several places, the quality of the gas fell "considerably below 585 for some period of time" (p. 477). "The B. T. U. over in Rensselaer

were down, as I recall it, in the neighborhood of 525 for a matter of weeks and months" (p. 478). In other places it was 540 and 550. But "no complaints or any other information or disclosures that came to us or which we could dig up indicated that there was any lack of satisfactory service, satisfactory utilization by the consumer from these lower quality gases" (p. 479).

Efficiency of Service Under Heating Standard

This subject admits of several divisions, but an exhaustive discussion will not be attempted here.

"Efficiency in heating value," said Mr. Phillips, "naturally means energy input as compared with energy utilized." (p. 505-a). It means "the quantity of heat actually put into the material that you are heating" as compared with the quantity of heat that you get from the burner (p. 755).

"Laboratory results have shown an almost constant efficiency per B. T. U. though in the English laboratory tests it is perhaps well to call attention to the fact that in higher B. T. U. there has been a decrease in efficiency down to a certain points. * * * I mean B. T. U., in excess of 600" (Phillips, p. 505-a).

[fol. 2508] Mr. Freeman had never made any laboratory tests for utilization of gas on varying heat content, but his information was, from studies made by the Public Service Engineer of Providence, that in laboratory tests burner efficiency is practically the same with gas of 580 B. T. U. and of 510 B. T. U. content; "but that does not take into account the efficiency of practical application of the gas, which is an efficiency of practice and would be concerned with how much the customer actually utilizes the gas irrespective of the burner efficiency" (p. 862).

The witness illustrated his point by considering a cigar lighter in a cigar store, which has a certain efficiency (p. 862), but "its efficiency of application is practically a zero per cent. Now, as far as that cigar lighter goes, it does not make any difference practically what gas is on it at all. Now, that is one extreme" (p. 863).

Going to the other extreme, he took the case of a steam boiler which has a certain efficiency, and said that if the

steam is being taken from the boiler continuously the boiler will have a hundred per cent efficiency of application, whereas if it pops off steam it has less efficiency of application.

"So that in the use of gas you have got (p. 863) the application or the practical application of the gas varying from zero per cent. efficiency up to 100 per cent. efficiency" (p. 864).

He further instanced a laboratory test where, when the water comes to boil, the gas is cut off, rating this at 100 per cent efficiency of application; "but the housewife in utilizing that gas does not use it that way" (p. 864).

The important point to witness' mind is the ratio of heat applied to the ratio of heat utilized (p. 865).

He assumed the further instance of a woman in Providence boiling water on 580 B. T. U. gas. Assuming that it begins to boil in four minutes, it may be that the gas will not be turned off for five or six minutes (p. 865). If she turns it off in five minutes there has been a waste of gas for one minute. Assuming the same circumstances with the use of 510 B. T. U. gas and that the pot would begin to boil in 4½ minutes (p. 866); then if gas is turned off at the end of five minutes there is a waste of one-half minute. In each of these cases the burner efficiency would be practically the same: "It would be somewhere in the neighborhood of 35 or 40 per cent;" improvement "on very good adjustment up to 50." If the burner efficiency were not the same it would not be off more than one or two per cent (p. 867).

It seems that Mr. Merrifield conducted certain minor experiments in his home about which he testified and in which he took the B. T. U. as furnished to the Commission by the Department of Water Supply as being equivalent to the B. T. U. furnished in his house upon the days that he was making the tests, and upon that predicated his calculations. He testified that he got a very wide range of efficiency in his appliance. "I have had an efficiency of 34 per cent, which was the maximum that I secured, and I [fol. 2509] have gotten an efficiency of 16 and a fraction per cent, which was the minimum that I secured. On each of these occasions I did what I considered or thought was possible to secure a perfect mixture (p. 1160) and perfect

combustion of the gases at the point of admission. But I had this wide range, this unexplainable wide range of efficiency upon the same device" (p. 1161).

Thus there are to be taken into account the efficiency of the gas, the efficiency of its application, and the efficiency of the appliance to determine the efficiency of service and the standard for manufacture, and, inevitably, the conclusion must be in favor of gas of a B. T. U. content lower than that generally found in gas of 22 candle power.

Effect of Decrease in B. T. U. Content Upon Quantity Consumption

Mr. Phillips testified that "so far there has been little, if any, increase in gas consumption with the reductions in heating value which have taken place * * * with the ordinary consumer" (p. 503-a).

This witness pointed out, however, as follows:

"The laboratory experiments quite generally have shown an increase proportional or nearly proportional; that is, an increase in consumption to do the same amount of work proportional or nearly proportional to the reduction in the heating value. That is to say, that a heat unit gives about the same efficiency. In these laboratory tests, however, it must be kept in mind that they have almost exclusively been the heating of water on top burners of a gas stove and that after each experiment the burners have been carefully adjusted to give the maximum efficiency; and it also must be kept in mind that the average consumer does not use gas only for water heating or that the conditions on his premises are comparable with the laboratory. The laboratory affords very excellent opportunity for studying certain conditions but those conditions must necessarily be kept constant, and the variation in one of them be allowed to take place in order to get some idea of the variation due to that particular condition, and as a result it has been almost impossible thus far to duplicate domestic consumers' conditions in the laboratory.

"Certain laboratory tests have shown an improvement in efficiency with a lower heating value of gas, and there have been a few which would seem to show a slightly poorer

efficiency under certain conditions. But I believe that taking it as a whole and in view particularly of certain laboratory tests which we have made in connection with this Baltimore investigation which I believe are about as exhaustive as any that have been made in this country, also taking into mind those that were made in England by the Fuel Research Board and by the Institution of Gas Engineers, I believe that you can say pretty positively that [fol. 2510] laboratory results have shown an almost constant efficiency per B. T. U., though in the English laboratory tests it perhaps is well to call attention to the fact that in higher B. T. U. there has been a decrease in efficiency down to a certain point."

Mr. Freeman's testimony is important upon this point. He produced a tabulation entitled "Comparative Send-outs," which was received in evidence and marked Exhibit No. 11. (p. 848). In regard to it he testified:

That he, personally, had drafted it, (p. 835) as the result of his individual study, in one column setting down "the increase in send out in the year 1920, as compared with the year 1919" (p. 838).

"Now, to one who has not had this experience that we have had here in Providence, he might assume that immediately when you reduce your heating value of gas that you would get an increase in consumption of gas on the part of the city" (p. 840).

"Taking the send-out of gas for the six weeks' period just previous to the time we reduced the heat value in our gas, we find * * * that in the year 1920 we sent out 897,000 cubic feet more per day than we did in the year 1919, both years being on 580 B. T. U. gas" (p. 840).

"This table indicates that after the change in B. T. U. went into effect from 580 to 510, that taking the first six weeks' period after that time in the year 1920 as compared with the year 1919, that 706,000 cubic feet of gas more were sent out in 1920 than in 1919" (p. 842).

He further pointed out that, comparing periods of eighteen weeks each, in 1920, when 510 B. T. U. gas was furnished, 693,000 cubic feet of gas more were sent out than during the corresponding period in 1919, "showing that there was no increase in the consumption of gas by reason

of a B. T. U. reduction from 580 to 510 heat units" (p. 843).

Here the witness stated that a tabulation over a long period of years would not be more accurate, as it would involve economic changes (p. 844), concluding that "if running on a 580 B. T. U. gas we show a constantly greater amount of gas used in 1920 over 1919, immediately when we change the B. T. U. from 580 to 510, if there was an increase in use, the send-out should have gone up, but it did not come up any more than what had been obtaining just previously to that time" (p. 847).

Mr. Freeman affirmed that there was a common belief that on a reduction in the thermal content of gas there is a corresponding increase in the volume of gas used per consumer (p. 850). He had had occasion to make two studies with respect to increase or decrease in consumption by particular groups of individuals.

The first study is headed "Comparison of Sales on 580 B. T. U. and 510 B. T. U." (Exhibit No. 12, pp. 851, 856) [fol. 2511] and was obtained from the consumers' ledgers. There were tabulated ten household accounts taken from the same pages and lines of each of thirteen ledgers for the thirteen districts (p. 851). The page and the line were selected arbitrarily; 127 customers were considered out of the total of 140 selected, some of the 140 customers having at times a blank account (pp. 852, 853). The periods covered included the five months immediately preceding the change and the five months immediately following (p. 853); also the corresponding periods a year previously. For the five months' period just before the time of B. T. U. change, there was an increase of 8.8 per cent in volume over the corresponding period in the previous year, (p. 854) during both of which 580 B. T. U. gas was supplied.

Applying this rate of increase to the consumption for the five months beginning May, 1919, the consumption in the period beginning May, 1920, should have been 1,497,740 cubic feet, but it was in fact 46,000 cubic feet in excess of that, or 1,544,500 cubic feet, which is "an apparent increase in the use of gas by reason of B. T. U. reduction of 3.1 per cent" (p. 855). This relates to volume.

There was an additional similar tabulation with respect to the Oakland Villa plat (Exhibit No. 13, Record, p. 861),

where 48 consumers were considered (p. 857), this being a random selection of location, rather than a random selection from all the ledger customers. Instead of showing a normal increase in consumption in the five months' period after the change of standard, the tabulation showed an apparent decrease in sales of 6.7 per cent (p. 858). These consumers were householders (p. 859), but possibly some of the consumers mentioned in the preceding table were industrial users. But the big industrial consumers are carried in a separate ledger (p. 861.)

Mr. Freeman, having been asked in the course of his examination to submit tables showing comparative sales per meter per year, subsequently wrote the Chairman of the Commission under date of April 4, 1922, enclosing tabulation showing "Comparative sales per active meter" for the Providence Gas Company for the years 1916 to 1921, inclusive. The letter and the tables were copied into the record, beginning on page 1046. In his letter Mr. Freeman stated, among other things:

"As I stated on the stand, I do not feel that the average consumption per active meter on various standards of gases for different years of the life of a company are comparative so as to indicate the effect of any change in the use of gas by reason of change in quality of gas supplied. It it a known fact that the general tendency of gas users is to increase their use of gas by reason of the fact that any particular customer will install additional gas-using appliances from time to time. * * *

"I feel that the first exhibit (Exhibit No. 11) which I presented before you, which showed the total send-out of our company just before the time of B. T. U. change and just [fol. 2512] after the time of B. T. U. change, is the criterion of the situation for the reason that conditions just before and just after any particular time, especially when this time is of short period, are practically the same and are, therefore, eliminated and the same applies to the additional use of gas by customers and the industrial use of gas. If there had been an increase in use of gas by reason of a reduction of heat value, it should have manifested itself immediately after the B. T. U. were changed.

"On this particular table which I am sending to you it is noticeable that January 1921 sales per meter are lower than those previous years when the B. T. U. value was higher; this same applies to February and March; it does not apply to April; it applies to May; June the sales per meter in 1920 and 1921 were as low or lower than previous years on higher B. T. U.; July 1920 and 1921 were as low practically as previous years; the same applies for August; it is practically so for September; October 1920 and 1921 are slightly higher; November, 1921, is practically the same as those of previous years; and the same applies for December. As I said above, I don't think this particular table is conclusive, (although the general trend shows there has been no general increase in sales per meter), in eliminating any of the conditions of which I have spoken" (p. 1049).

Mr. Merrifield also had had occasion to prepare tabulations upon this subject (p. 1057) "from data taken from the annual reports of the Brooklyn Borough Gas Company and from records of gas quality furnished the Commission by the Department of Water Supply, Gas & Electricity of the City of New York." He testified that "the tabulations attempt to show the relation which gas consumption bears to variations in heating values of gas. They cover a three-year period, including 1919, 1920 and 1921. During this period the quality of the gas with respect to its heating value varied, the rate charged for gas varied and there was also a variation in the average sales per meter" (p. 1104); that "in this tabulation an attempt has been made to show the effect on gas consumption for different periods as compared with other periods wherein the quality of gas varied" (pp. 1105, 1106).

The tabulations were attached to a report by Mr. Merrifield headed "Memorandum for Chairman Prendergast; Subject: Studies of Gas Consumption in its Relation to Gas of Varying B. T. U. Content," which was dated March 1, 1922 (p. 1111). This report together with the tabulations were copied into the record beginning on page 1113.

Mr. Merrifield stated in the report that it was of interest to show "how reduction in illuminating and heating values

of manufactured gas affect the average sales per meter" (p. 1113).

He said: "The tables which are arranged by monthly averages afford a ready basis of comparison for the three-year period" (p. 1114); that "an analysis of the figures will show a marked increase in average monthly sales per [fol. 2513] meter during the early months of 1920, as compared with the corresponding months of 1919. During this period, no change occurred in the quality of gas furnished, nor in the rate charged (p. 1115).

On August 1, 1920, the 528 B. T. U. standard was fixed and the gas rate was increased from $1.15 to $1.40 per thousand cubic feet; this rate prevailed until May 6, 1921, when it was changed to $1.50, the rate being decreased to $1.35 on Sept. 23, 1921 (pp. 1116, 1117).

"With the exception of the months of April and September, each month during 1921 showed a decrease in average meter sales, as compared with the corresponding months of 1920 (p. 1116). * * * The luminosity of the gas during the first four months of 1921 was 50 per cent less than that furnished in the corresponding period of 1920. This decrease in luminosity was accompanied by a 16 per cent reduction in the heat content of the gas. While the figures representing the illuminating and heating values would indicate a lower quality of gas during the 1921 period, nevertheless, the average monthly meter sales decreased by 2.8 per cent as compared with the corresponding period of 1920, when a supposedly higher quality of gas was furnished. * * * There was, however, an increased rate charged during this period of 1921, that is, $1.50, as compared with $1.15 per thousand cubic feet in 1920 (p. 1117).

"The greatest increase in average monthly sales took place when the rate was $1.10 per thousand cubic feet, which gas approximating 630 B. T. U. per cubic foot. A change to $1.15 per thousand cubic feet and approximately 575 B. T. U. gas was accompanied by a somewhat lower percentage increase in meter sales. The change to $1.40 per thousand cubic feet and 528 B. T. U. per cubic foot, although followed by an increase in average monthly meter sales, such increase was noticeably lower than the increase of the prior periods. As already stated, the average sales

per meter decreased during 1921. The establishment of the $1.50 rate and the subsequent reduction to $1.35 per thousand cubic feet did not apparently affect the situation in any manner" (p. 118).

Mr. Merrifield's experience in his home affords valuable data. As a result of the change of standard from 22 candle power to 525 B. T. U. his gas bills have been no higher (pp. 290, 291).

Colonel Betts said:

"The practical results, however, as shown by some figures I have here * * * indicate that the results that you get in the ordinary kitchen under ordinary conditions are not at all proportional to the reduction in the heating value of the gas. When it comes to industrial uses, such as tempering and work of that kind in these furnaces that are used in a good many industrial methods, you have those things as a rule under the watchful eye of an expert and he is at all times, if he is on his job, trying to keep the thing in close adjustment. So there you will get a result in many appliances, and you get results that are perhaps [fol. 2514] very closely proportioned to the heating value of the gas itself" (pp. 1018, 1019).

He has reference to a tabulation upon the consumption of gas for domestic purposes by 750 customers in Newark during the first seven months of the years 1917 to 1921, inclusive (Exhibit 14; p. 1040).

"What all these figures indicate to me is that there seems to be a normal increase in consumption on the part of the same customers year by year of some figure that is not far from 6½ to 7 per cent" (pp. 1024, 1025).

That table showed that in 1919 there was 5.06 per cent less volume of gas used than in 1918, that in 1920 the increase over 1918 was .21 per cent, and an increase for 1921 over 1918 of 6.34 per cent; that the increase in volume used in 1920 over 1919 was 5.11 per cent, and in 1921 over 1919, 12.01 per cent; and that the 1921 increase over 1920 was 6.57 per cent.

A similar table was produced with respect to Jersey City, which, the witness said, showed a little different condition

(Exhibit 15; Record p. 1040). These 750 consumers were factory employees, etc. (p. 1028). The increase in 1918 over 1917 was 6.53 per cent, which compares with the Newark district; and 2.56 per cent in 1919 over 1917. The 1920 increase over 1917 is 5.66 per cent. and the 1921 increase over 1917, 8.12 per cent (p. 1029). "It would seem," said Colonel Betts, "as if the ordinary addition might have been at least 5 per cent. Now if that is so, you see the actual increase in 1921 over 1920 (when the change of standard was made) is only 2.32 per cent," meaning the increase due to the change of standard (p. 1030).

Mr. Cheney had made a study of the Massachusetts investigation, and he testified (p. 460):

"The first year that the 19 companies changed to a heat unit standard and the average B. T. U. content of their gas was decreased approximately 7 per cent from what it had been previously, the consumption per consumer increased 6 per cent. The same year, the other companies which did not change experienced a 5 per cent increase in consumption. * * *

"In the second year of the experiment the companies operating on the heat unit standard" experienced a 5 per cent increase of consumption, and the increased consumption per consumer of the other companies which had made no change in gas quality was 10 per cent (p. 462).

Mr. Jenkins testified:

After the fixing of the 528 B. T. U. minimum standard in Massachusetts, "we still continued to observe the working of the standard, and one method that we took which seemed to be interesting at least, was to tabulate the percentage increase of consumption per meter as compared with the percentage variation in the decrease of the B. T. U. for several companies. I have here a tabulation of some [fol. 2515] of the companies that I would like to leave with the Commissioners. I think it might be interesting, in which for the years 1916 and 1917 are given the percentage of the increase in consumption. Then for 1918, the first year which the B. T. U. standard was in effect, is given the same figures of increased consumption and decreased B. T.

U.'s, and also the variation in B. T. U.'s during the year, and so on up to 1921. I have here nine companies which are more or less typical, but they were chosen at random" (pp. 306, 307).

The tabulations referred to were contained in a statement which read in part as follows:

The results of operation of nine of these companies have been further studied to determine, if possible, the relation between lower B. T. U.'s and increased consumption. From the tables following there appears apparently little relation, for increased consumption is not always in the same ratio as the decreased calorific value. This study covers a four-year period and gas companies of various kinds, small and large, coal, water and mixed gases, and one company distributing gas under high pressure.

Mr. Jenkins also testified that "I think a fair deduction of those figures will show that there is practically no relation between the increased consumption per meter by the change, variation, if there be any, in the B. T. U.'s" (p. 320).

It was in the course of the examination of Mr. Cheney that the Assistant Corporation Counsel observed that the question is a laboratory question, that if we have not any laboratory data or some actual experimentation with the gas, the conclusions of witnesses are valueless (p. 448). On the contrary, however, the testimony above indicates very clearly that in so far as is concerned the ratio of consumption to decrease in calorific value the question has to do with the actual conditions on consumer's premises, and they are shown to be very different. Mr. Phillips found "that the coils of water heaters in a great many cases were covered with a carbon deposit," "that the mantles in the houses were badly carboned," that many of the cooking utensils were covered with a deposit of carbon — "so they became poor conductors of heat". These conditions, he said, constituted "the reason for the fact that tests so far have not shown an increase in consumption, or, where there have been increases, but very small increases in consumption, where the heating value has been reduced within the limits with which we are familiar" (pp. 1236, 1237).

"If," said Mr. Phillips, "every consumer's appliance was constantly adjusted to the maximum of service, then, naturally, you would get an increase in the consumption, but the fact is that the consumers' appliances are not so" (p. 1238).

He testified further:

"There is a clear distinction between the usual way in which the ordinary average consumer uses the gas for daily operations and the tests which may be made in the labora- [fol. 2516] tory." In boiling operations, for instance, the consumer does not usually turn down the gas when the time comes. In the Baltimore tests "we have attempted to determine how much he wastes in that way and we have found that it is possible for him to continue boiling with approximately one ninth of the gas that is ordinarily used" (p. 753).

The observation to be made in this connection is perfectly obvious—that with a gas less expensive of production, and accordingly less expensive to the consumer, there will be a saving in the cost of the quantity wasted; and even if there were an increase in the quantity consumed, there would be a proportionate reduction in the cost to the consumer.

Conservation of Resources

While this has a very practical application, available time and space will not permit of detailed discussion. The subject will be found briefly outlined, however, in the following extracts from Mr. Phillips' testimony:

"We must look in the future to a radical curtailment of the use of oil in the gas industry, unless the gas industry and the public are prepared to pay an exceedingly high price" (p. 576).

"Most of the foreign fields, with the exception of perhaps Mexico, the oil produced from them would naturally be expensive on account of transportation costs. The Mexican oil * * * is mostly of a quality which is not suitable for gas making purposes because it is a heavy oil which contains in most cases large quantities of sulphur which practically preclude its use for gas making" (p. 585).

"It is suggested that the oil shale deposits in the western part of this country may be a substitute" (p. 587).

"The cost of producing shale oil would probably be fairly high and put it beyond range of economical use in water gas manufacture" (p. 588).

"I believe that it will be necessary to reduce the quantity of oil used in gas manufacture" (pp. 601-602).

"* * * Supplies of petroleum in the United States are being rapidly exhausted. * * * Petroleum products are coming into greater and greater demand" (p. 602).

"* * * The result of this would be that while it may be possible to use some quantities of oil their use will have to be substantially restricted" (p. 603).

See also Mr. Phillips' "Discussion of Lower B. T. U. Standards for Gas". (Exhibit No. 6.)

Future Development of the Gas Industry

There are "three possible lines for development of the gas industry". Mr. Phillips testified:

"The first * * * is the simple reduction of the use of oil in carbureted water gas manufacture to perhaps a gallon a thousand, making a gas of 350 to 400 B. T. U. or perhaps even blue water gas of 300 B. T. U. Such gas is [fol. 2517] practicable for use" (p. 605).

"That would involve the extension of plant, larger distribution systems and various other factors which I believe make such course impracticable when carried to the last degree" (p. 606).

"The second would be a complete substitution of water gas plants by coal gas plants" (p. 607).

"The supply of large quantities of coal gas or coke oven gas, unless there is a very favorable market for coke, is unwise unless there is a water gas plant in addition to take up the quantities of coke which are produced in a coal gas plant."

"The third * * * the most logical course of development of the gas industry is the building of coal gas plants in the future in connection with the water gas plants, making the relation of coal gas plants to water gas plants such that the total quantity of coke or nearly the total quantity of coke produced in the coal gas plants will be used in the water gas plants for the production of water water gas" (p. 608).

"That will offer the most stable condition of gas price and probably the most satisfactory one to the consumer" (p. 608½).

"A gas plant should be built not for the present day but for a period of time in the future looking forward to the future economic conditions" (p. 610).

Fortunately, this subject also is considered in Mr. Phillips' "Discussion of Lower B. T. U. Standards for Gas." (Exhibit No. 6) and it is not deemed necessary to further outline it here.

Standard to be Adopted

"It is elemental that the standard of the gas should be established on the heating basis" (Cheney, p. 444).

"I think 650 B. T. U.'s is too high. It is too rich a gas for the best utilization and most satisfactory results to the consumers" (Cheney, p. 489).

"I think you will increase the efficiency of utilization as you come down until you have gone something less than 600, but I don't know how far that continues" (Cheney, p. 496).

"You can get satisfactory service, you can get good utilization and perform the work that the customer wants to perform with gas down as low as 500 B. T. U., I am sure. I haven't any reason to suppose that it stops there, but my experience does not permit me to express a very positive opinion beyond that point" (Cheney, p. 496).

"There is no question, I think, that the 550 B. T. U. would be more efficient in the ordinary domestic appliances" than gas of 22 candle power. "Utilization and efficiency would be much better" (Cheney, p. 498).

Referring to the industrial user, Mr. Cheney said that under certain conditions, "you will get more out of a cubic foot of 22 candle power gas than you will out of 550" B. T. U. Gas (p. 499).

[fol. 2518] Mr. Phillips testified (p. 492-a):

"There are a number of factors that should be considered in adopting a B. T. U. standard. The cost of the service to the consumer, the satisfaction of the service,—to a certain extent it would be necessary to consider the uses to which

in a general way the gas is put—the appliances, that is to say, in a general way, their character and their range of adjustability, because, of course, no standard should be fixed which would be uneconomical for the consumer to use, looked at not only from the point of view of the efficiency of the gas itself, but of the necessity of supplying new apparatus in his home which would entail expense to him for which he would not be compensated by increased efficiency or some such condition."

Assuming the production of 20 per cent coal gas and 80 per cent carbureted water gas, Mr. Phillips further testified.

That for New York city "a standard of between 525 and 570 B. T. U. actual average maintained would give a satisfactory and economical service, for the reason that gas of heating value within that range would be barely dry and would not drop out large quantities of these condensible hydrocarbons, because the quality would have been reduced by the reduction in the quantity of gas oil used per thousand cubic feet" (p. 495-a).

He also stated that the effect of the change from 22 candle power to between 525 and 570 B. T. U. would be to decrease the unavoidable variation in quality, adding "and since regularity is the most desirable quality of service and determines to a large extent the efficiency of service, the fact of a reduction which would tend to reduce the fluctuations in quality would have a very desirable effect" (p. 496-a).

Better service would result to industrial as well as domestic consumers. "There are certain industrial plants that perhaps find it possible to have an expert continually watching the apparatus in use and keeping it adjusted for the heating value of the gas which may be supplied on that particular day, but with a more uniform standard the industrial user would also obtain better service in that he would not find it necessary to make so many adjustments, and to the industrial user who did not make continual adjustment of his appliances the improvement in service would be very considerable" (pp. 496-a, 497-a).

But, said Mr. Phillips, "you can obtain good service with gas of any heating value, provided your appliances are properly adjusted and you do not go down to below say 450 B. T. U. because that would necessitate a redesign of appliances" (p. 509-a).

Further in his testimony, Mr. Phillips recurred to the serviceable range of between 525 and 570 B. T. U. which he had suggested, and said:

"My belief would be that a standard towrads the lower part of that limit would be the more advisable; that is, 530 to 540 B. T. U. and I may qualify that further by saying [fol. 2519] that my reason for that is that a better degree of uniformity will be possible with a standard of about that figure than would be with a higher standard" (p. 615).

In adopting a standard, "it is usual to fix an average monthly value (p. 619). * * * There is also a minimum figure fixed in some cases, being a requirement that never must the heat value fall below that, and in other cases that the daily average must never fall below that figure" (Phillips, p. 620).

Mr. Phillips believed it would be the best policy to fix a minimum, an average and a maximum heating value, though a minimum and a maximum are sufficient. It "has a good public effect to fix a monthly average which the company may live up to" (p. 621). He said a satisfactory standard would be 525 B. T. U. minimum, 550 average, and 580 maximum (p. 624).

While Mr. Merrifield would not say that 550 B. T. U. is the ideal standard, he testified that with such gas "it is much easier to maintain constant quality in the gas delivered to the consumer than it is with gases whose B. T. U. content may be higher than 550 B. T. U. per cubic foot" (p. 263).

To have the best quality of gas, it is not necessary that it should be of high heating value, testified Mr. Jenkins (p. 362). As the result of the investigation conducted by Mr. Jenkins in Massachusetts, he recommended to the Board that a standard of 525 B. T. U. be adopted. He described this as the "reasonable point" (p. 367). Asked if he would be inclined to recommened a higher B. T. U. standard than 525, he replied:

"If the question were opened up (in Massachusetts) I do not know what I should do. I doubt if I should recommend any increase." (p. 389.) Mr. Woods testified that the standard which he thought would be most suitable for present adoption in New York city should be "not over

a monthly average of 550 B. T. U.'s" (p. 398). He further said, however, that "I think within ten years we will be selling somewhere between 400 and 450 (B. T. U. gas) in New York City" (pp. 399, 400).

But he would not recommend for New York City the immediate adoption of a standard of 525 B. T. U.'s or lower (p. 400).

Mr. Klump testified that his "experience in the last few years has indicated to me that a standard less than 570 is desirable (p. 425). * * * I am of the opinion that with the present processes of manufacture and the present conditions, a standard between 500 and 550, depending upon the local conditions is advisable." He had recommended a standard of 530 in Philadelphia "under the conditions that they were operating at that time" (p. 426).

Method of Changing Standard

As testified by Mr. Phillips, if there were a change of standard from 22 candle power—to 550 B. T. U. for instance—there should be a general adjustment of customers' appliances. "The company should prepare for a change, in my opinion, some time in advance, and should train a corps of men who will be capable of going to the consumers' [fol. 2520] houses and adjusting appliances. There should be some publicity given to the proposed change so that the people would know what to expect and what they should do." He explained that there should be then a reduction of probably 30 B. T. U.'s in quality, the gas being maintained at that point for at least three weeks, that there would be an increase of complaints and the company should adjust the appliances of those complaining, free of charge. Upon a further reduction of 30 B. T. U.'s adjustments should be continued. After the reduction has been made to the standard determined upon, "there should be a house to house canvass and every appliance should be carefully adjusted to the new quality of the gas supplied. If such is done there should be no serious difficulty and the service obtained with the new standard should be excellent" (pp. 625, 626).

Mr. Merrifield testified that he believed "it is possible to change from a 22 candle power gas to a B. T. U. gas * * * without any inconvenience whatever to the consumer, .

the change is made in steps" (p. 282). The duration of time for each step would be a question dependent upon the size of the organization and the length of time it would take to do the work of readjustment (pp. 284, 285).

Mr. Jenkins said (p. 386):

"If a change is to be made involving 100 B. T. U.'s, it would be my impression that it might be desirable to make it in two steps."

Review of the Testimony

As a result of the investigation, it may be said

1. That the witnesses whose testimony has been discussed above were men of experience and intimate knowledge of the gas industry.

2. That "the test for candle power" is "obsolete" (Little, p. 1803).

3. That the "modern method takes into account the heating quality of the gas as expressed in B. T. U. (Little, p. 1803).

4. That elsewhere the B. T. U. standard is generally in effect.

5. That candle power "is not an intrinsic quality of the gas. It is the light that you are able to produce when you use it in a certain particular burner." (Phillips, p. 506.)

6. That the candle power standard is representative of its value to the consumer only when used through an open flame burner.

7. That only a very small proportion of the gas utilized is through the open flame burner.

8. That all other gas appliances, domestic and industrial, for cooking, heating and power purposes, function to employ the heating power of the gas not upon its luminous constituents.

9. That there is no direct relation between candle power and heating power, though 22 candle power gas may be [fol. 2521] said generally to have a heat content of about

650 B. T. U.; and gas of 550 B. T. U. content "gives a light of approximately 16 candle power" when used through the open flame burner (Merrifield, p. 231).

10. That "candle power" gas is of variable quality and though gas may be produced to test at 22 candle power it may be of only 12 candle power when delivered to the consumer (Merrifield, p. 242½), and the degree of its variation "depends entirely on conditions" (Merrifield, p. 244).

11. That "with a lower heating value of gas * * * you permit a narrower variation of the quality of gas" (Phillips, p. 511.)

12. That uniformity of quality is the first element of good service.

13. That it is not essential to good service that gas be of high heating power.

14. That in the manufacture of gas to meet a 22 candle power requirement, the average quantity of oil used per thousand cubic feet of gas produced is about 4.1 gallons.

15. That in the manufacture of gas to a standard of B. T. U. content less than 650, it would be necessary to use a less quantity of oil.

16. That the calorimeter test results in a more accurate estimate of the quality of gas delivered to the consumer than the photometric test.

17. That in the course of distribution the luminous constituents of gas manufactured to a candle power standard through the use of enriching oil, being condensible vapor, are subject to being dropped—for various causes.

18. That if the consumer does not have delivered to his appliance the full value of the gas produced at the works, the gas is not of good quality, nor is the method of testing of advantage to the consumer.

19. That uniformity of gas quality means substantial uniformity in its calorific quality (Jenkins, p. 368).

20. That "if, in order to retain a uniform candle power the calorific value varies, the actual service rendered the majority of consumers will be impaired" (Jenkins, p. 371).

21. That "regularity is the most desirable quality of service" (Phillips, p. 496).

22. That "with a more uniform standard the industrial user would also obtain better service" (Phillips, p. 496).

23. That reduction of the candle power of gas by 75 per cent would reduce the heat value only about 8 or 10 per cent.

24. That open flame burners are not used where any great amount of light is expected to be obtained, even 22 candle power gas being regarded as a low degree of luminosity, especially in compar-son with the light to be obtained with the mantle burner.

25. That where gas is used for its heating power, it is mixed with air, and even if any part of the luminous constituents in 22 candle power gas produced at the works is not dropped from the system in the course of distribution, [fol. 2522] "the effect of the admission of air is to destroy the luminosity of that 22 candle power gas" (Merrifield, p. 241).

26. "That the mantle light will give per cubic foot of gas supplied, probably four or five times as much light as an open flame burner" (Phillips, p. 512).

27. That the use of high candle power gas in mantle burners may cause a blackening of the mantle by reason of lack of air in the burner (Klump, Case No. 108-A, p. 57).

28. That even if higher candle power illumination may be obtained through the use of higher heating power gas through a mantle burner, such gas is subject to greater variation in quality with resultant impairment of appliance adjustment.

29. That an adjustment will usually accommodate a variation of 50 B. T. U. (Jenkins, p. 386).

30. That variation of more than 50 B. T. U. may be reasonably expected in gas of over 600 B. T. U. content; but gas of serviceable quality may be produced so as not to vary more than 2 per cent.

31. That there is "a slight increase in flame temperature in the lower heating value gas," and "in high temperature industrial operations flame temperature is important" (Phillips, p. 499).

32. That the "Welsbach mantle increases its brilliancy very rapidly with increase in flame temperature" (Id.).

33. That "illuminating gas of 500 B. T. U. has a slightly higher flame temperature than 600 B. T. U. gas." (Betts, p. 1016).

34. That "laboratory results have shown an almost constant efficiency per B. T. U." (Phillips, p. 505).

35. That appliance efficiency varies and is considerably below 50 per cent (Merrifield, p. 1160, Freeman, p. 867).

36. That there is considerable waste in the use of gas by domestic consumers.

37. That the experience in localities under a B. T. U. standard has been satisfactory; that complaints are no more numerous, and are not due to the quality of the gas furnished.

38. That there is no increase in gas consumption with reduction in heating value, so far as the ordinary domestic consumer is concerned, but the contrary may be expected in industrial operations.

The basic points in the foregoing digest of the testimony suggest the following questions:

Question No. 1. What are the advantages and disadvantages of the 22 candle power standard?

Question No. 2. What are the advantages which accompany a change to a heat value standard?

Question No. 3. Would a change from a 22 candle power standard to a heat value standard affect adversely the gas service in the City of New York?

Question No. 4. Will a heat value standard lower than what may be considered as the heat value equivalent of 22 candle power gas cause increased consumption on the part of gas users?

[fol. 2523] Discussion and Conclusions

Question No. 1. What are the advantages and disadvantages of the 22 candle power standard?

Answer. The principal advantage of a 22 candle power standard is its luminosity when used through an open flame burner. With a suitable burner, this gas will give a light equal to 22 candles when used at the rate of 5 cubic feet per hour. The amount of gas used in this manner is, however, but a small percentage of the total gas used. The commonly used gas mantle, for instance, requires a heat gas for incandescence and not an illuminating gas. By far the greater percentage of gas is used under conditions where its heat value is the principal factor in its efficiency. Manufactured gas is composed of a number of constituent gases. The constituents which produce luminosity are also possessed of high heating value, so that a 22 candle power gas is usually accompanied by a high heat content which can be utilized to practically full advantage, if proper scientific control is applied. It must be understood, however, that under a candle power standard, it is not possible to furnish gas of uniform composition, for the reason that the constituents which provide luminosity are the least permanent and are easily subject to condensation. Climatic changes are in great part responsible for variations in the quality of a gas of this kind, regardless of manufacturing methods. The fact that 22 candle power gas is of variable composition prevents the maintenance of a balanced condition of gas burning devices except where they are used under technical supervision. This supervision can not be applied by the ordinary gas user. As a consequence (under a 22 candle power standard), the gas burning appliances are frequently out of adjustment, resulting in imperfect combusion, which causes waste, and the deposit of soot upon mantles, burners, cooking utensils, and the premises.

Question No. 2. What are the advantages which accompany a change to a heat value standard?

Answer (a) Under a standard of 550 British Thermal Units or less per cubic foot, the percentage of non-permanent gases is to a great extent eliminated. Climatic changes have much less effect upon the gas composition and the manufacturer can be assured of practically exact conditions

of production at all times from the raw material used. The constant quality of the gas means a balanced adjustment of gas burning devices and a consequent minimizing of waste during combustion.

(b) While practically all grades of oil are suitable for the production of heat value gas, there is a narrow range of selection of oils from which 22 candle power gas can be produced.

Question No. 3. Would a change from a 22 candle power standard to a heat value standard affect adversely the gas service in the city of New York?

Answer. No! The change from a 22 candle power standard to a heat value standard will not adversely affect the gas service in the city of New York. Adequate gas service [fol. 2524] depends upon the maintenance of proper pressure conditions and a constant quality of gas. The change to a heat value standard will have no effect whatever upon the maintenance of adequate pressures and the gas produced under a reasonable heat value standard will maintain its constancy within very narrow limits.

It must be remembered that the amount of gas used for illumination through open flame burners constitutes but an insignificant fraction of the total gas used, and where the heat value of gas is the determining factor of efficiency, constancy of quality is most essential. The heat value of gas is the prime factor of efficiency where gas is used through mantle burners, gas radiators, gas ranges, gas stoves and industrial appliances, and while the supply of gas remains adequate, and its quality remains constant, these various devices will function efficiently.

Question No. 4. Will a heat value standard lower than what may be considered as the heat value equivalent of 22 candle power of gas cause increased consumption on the part of gas users?

Answer. No! There is nothing to indicate that a change in standard would be accompanied by an increased use of gas, except in the case of utilization in a large industrial enterprise where scientific control was established. Where a fuel engineer is employed, it can be assumed that the use of gas would be proportionate to its British Thermal Unit content. This does not apply to the domestic users

of gas, the reason for which may be considered in this manner.

(a) Under a 22 candle power standard, a great deal of the gas is wasted because of the variable quality of the gas, which disturbs the efficiency of the air adjustment.

(b) As individuals, we test the value of gas service by its household usefulness. The value in industry, under the experts employed for the purpose, means little or nothing in comparison. The household runs without any such experts and requires gas which will be of as uniform a quality as it is possible to secure and which will contain the utmost heat efficiency possible under home conditions. The extra heat units in a gas which do not reach the boiling pot under the household's ways of doing things, are wasted, and money paid for them is wasted.

The proof available shows that no matter what the B. T. U. contents of the gas may be, the consumer does not burn that gas directly. What is really used is a mixture of air and gas, and this mixture takes on additional air at the point of its being lighted, in order to obtain perfect combustion. This means a mixture of air and gas, producing at the burner orifice a heat content ranging from 130 to 150 B. T. U. per cubic foot. While the quality of the gas remains constant, the heat value of the mixture is maintained, but as the gas varies in quality, the air in the mixture becomes disproportionate to the gas, causing a reduction in heat value at the point of ignition. Constant gas carries with it a proper equality of air in the mixture. [fol. 2525] In the event that the mixture contains an excess of air the result is a flashing back of the flame; and where the mixture contains insufficient air, soot will be deposited which clogs the fixtures and reduces the efficiency of the service.

The 22 candle power standard, with about 650 B. T. U. in it, has this variable quality, which disturbs the air adjustment in ordinary household use, and a great deal of the gas is wasted, so the heat value of the air and gas mixture resulting from a 22 candle power gas is less than that given by a gas having less heat units, which is steady in its quality. This may explain why, in places where the B. T. U. standard has been established, it was not accompanied by an increased consumption, because with the same constant quality of gas the heat units which really got

under the cooking utensil were working more steadily under ordinary domestic conditions.

The foregoing may be summarized by stating that the best gas service is obtained when an ample supply of constant quality gas is always available, and this condition is more easily secured under a reasonable heat value standard where the requirements approximate 500 to 540 British Thermal Units per cubic foot.

By the Commission.

Francis E. Roberts, Secretary.

[fol. 2526] PLAINTIFF'S EXHIBIT 164

The Brooklyn Union Gas Co.

Quantity and Reproduction Cost of Mains in Use as of June 1, 1923

Size	Lineal feet	Material & labor cost per foot	Total cost
1-¼"	1,308	$.7892	$1,032.27
1-½"	6,620	.8258	5,466.80
2"	22,663	.9328	21,140.05
3"	271,214	1.6883	457,890.60
4"	1,631,512	1.9037	3,105,909.39
6"	2,002,242	2.4287	4,862,845.14
8"	447,462	3.0685	1,373,037.15
10"	131,606	4.1470	545,770.08
12"	478,964	5.1014	2,443,386.95
16"	127,232	7.2088	917,190.04
20"	157,456	10.0340	1,579,913.50
24"	59,850	12.8428	768,641.58
30"	16,464	17.2858	284,593.41
36"	8,442	22.6248	190,998.56
42"	10,694	28.9175	309,243.75
	5,373,729		$16,867,059.27
Insurance, Field Supervision, Office Organization Storage, Material and Tool Expense			1,162,663.00
Pavement disturbed for construction			1,043,487.56
Total			$19,073,209.83

The foregoing is exclusive of necessary charges for general engineering, contractor's expense and profit, administrative legal and miscellaneous general expense during construction, interest during construction, and other undistributed structural costs.

[fol. 2727] PLAINTIFF'S EXHIBIT 165

The Brooklyn Union Gas Co.

Quantity and Reproduction Cost of Service in Use as of June 1, 1923

Size	No. in ground	Cost per service	Cost
¾"	7,676	$28.1504	$216,082.47
1"	13,117	29.8836	391,983.18
1-¼"	85,694	32.0583	2,747,203.96
1-½"	34,468	33.6661	1,160,403.13
2"	5,722	38.3566	219,476.47
3"	854	76.6059	65,421.44
4"	119	91.9216	10,938.67
6"	28	132.9718	3,723.21
8"	7	308.9275	2,162.49
12"	2	383.3456	766.69
	147,687		$4,818,161.71
Valves & Roadway Boxes			143,256.24
			$4,961,417.95
Insurance, Field Supervision, Office Organization Storage, Material and Tool Expense			351,515.00
Pavement disturbed for construction			943,573.70
Total			$6,256,506.65

The foregoing is exclusive of necessary charges for general engineering, contractor's expense and profit, administrative legal and miscellaneous general expense during construction, interest during construction, and other undistributed structural costs.

[fol. 2528] PLAINTIFF'S EXHIBIT 166

The Brooklyn Union Gas Co.

Meters owned as of June 1, 1923

Size	No. of meters	Cost per meter	Value
3-Lt.	19,754	$7.70	$152,105.80
5-Lt. Special	95,598	7.70	736,104.60
5-Lt.	335,622	8.40	2,819,224.80
10-Lt.	9,763	11.20	109,345.60
20-Lt.	5,296	21.00	111,216.00
30-Lt.	3,794	30.80	116,855.20
45-Lt.	1,436	47.60	68,353.60
60-Lt.	898	61.60	55,316.80
80-Lt.	7	87.50	612.50
100-Lt.	704	105.00	73,920.00
150-Lt.	399	161.00	64,239.00
200-Lt.	203	224.00	45,472.00
250-Lt.	29	280.00	8,120.00
300-Lt.	40	332.50	13,300.00
500-Lt.	4	840.00	3,360.00
600-Lt.	4	385.00	1,540.00
1700-Lt.	7	1,225.00	8,575.00
3-Lt. pp	14,110	11.45	161,559.50
5-Lt. pp	75	12.15	911.25
10-Lt. pp	2	15.20	30.40
	487,745		$4,550,162.05

473,558 Regular.
14,187 Prepayment.

The foregoing is exclusive of necessary charges for general engineering, contractor's expense and profit, administrative legal and miscellaneous general expense during construction, interest during construction, and other undistributed structural costs.

[fol. 2529] PLAINTIFF'S EXHIBIT No. 167

The Brooklyn Union Gas Company

Total Services in Use and Services Replaced, with Percentage Relation

Year	Total services in use at December 31st	Services replaced	Percentage
1912 (11 Mos.)	133,943	210	.00157
1913	135,426	243	.0018
1914	136,413	172	.00126
1915	137,537	277	.002
1916	138,606	135	.00097
1917	139,407	153	.0011
1918	139,818	105	.00075
1919	141,016	68	.00048
1920	141,932	56	.00039
1921	143,511	96	.00067
1922	146,691	96	.00065
1923	150,750	96	.00064

[fol. 2530] IN UNITED STATES DISTRICT COURT

[Title omitted]

STIPULATION RE PLAINTIFF'S EXHIBITS 171-A AND B

It is stipulated and agreed that Plaintiff-Appelee's Exhibits 171A and 171B, consisting of 572 pages, of which the first page of each is entitled: "Brooklyn Union Gas Company. General Summary of Costs upon a Subcontract Basis as of June 1, 1923. Structures and Appurtenances," be not printed in full, but that the following pages which contain summaries of the detail costs alone be printed:

"Page 1, a summary of all the structures and appurtenances at the various works and holder stations;

Pages 2, 3, 58, 59, 115, 116, 182, 183, 244 and 245, which are summaries of the structures and appurtenances at the respective works;